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ABSTRACT

The purpose of this study was to investigate the interaction effects between ethnic characteristics (Anglo and Chicano) of social models and counselors on the acquisition and performance of modeled behaviors by male junior high school students of varying ethnic backgrounds. The study consisted of 76 eighth grade males enrolled in a school in Fillmore, California. There were 15 experimental treatment groups with 4 subjects in each and 2 control groups with 6 subjects in each. The counselors and subjects comprising the various groups were chosen to achieve a particular combination of ethnic characteristics. Treatments were repeated by different counselors who were male graduate students in counseling psychology. The experimental treatment consisted of 3 counseling interviews during which 4 videotape recordings demonstrating 4 decision-making behaviors were presented. The treatment procedures were evaluated by determing (1) the accuracy of the recall of the modeled decision-making and ethnic characteristics and (2) the frequency and variety of information-seeking activities in which the subjects engaged. Some of the findings were (1) that Anglo and Chicano social models were equally effective in promoting imitative behaviors among observers of either ethnic background and (2) that Anglo and Chicano counselors were equally effective in counseling students of either ethnic background. (NQ)

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ETHNIC CHARACTERISTICS
AS
FACTORS IN SOCIAL MODELING

Ray E. Hosford and Louis A. J. M. de Visser

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CHAPTER I

RATIONALE AND REVIEW OF THE LITERATURE

General Purpose of the Study

The general purpose of the study was to develop and test experimentally a social modeling counseling procedure that can be used by counselors and teachers with children in general and Mexican-American students in particular. Specifically, the study investigated the relative effects of using videotaped social models of varying ethnic backgrounds, and the relative effects of employing counselors of varying ethnic backgrounds, on the acquisition of four decision-making behaviors and the performance of information-seeking behaviors by male Mexican-American and Anglo junior high school students interested in receiving special counseling concerning their educational and vocational plans.

For purposes of the study, the term Anglo was used to designate any individual who was white, had a non-Spanish surname, and was non-Mexican-American. The term Mexican-American referred to any individual who was Spanish surnamed and came from a home in which at least one parent was of Mexican descent. The terms Mexican-American and Chicano were used interchangeably.

The rationale for the approach used in the study is based on the social learning theory expounded by Bandura (1962, 1965, 1969) and Bandura & Walters (1963). The procedures of the study are not unlike the applications of social learning theory to counseling practice by Krumboltz and his associates (Krumboltz & Schroeder, 1965; Krumboltz and Thoresen, 1964; Krumboltz, Varerhorst, & Thoresen, 1967; Thoresen, Hosford, & Krumboltz, 1970; Thoresen & Krumboltz, 1968; Thoresen, Krumboltz, & Varenhorst, 1965, 1967). Evidence provided by these studies demonstrates that social modeling procedures are effective for promoting a variety of behaviors, including decision-making skills.

The study addressed itself particularly to ascertaining whether the ethnic characteristics of social models, counselors, and/or clients have a significant impact on the extent of subsequent imitative behaviors of observers. It was felt that, rather than promoting any observable behavior merely to test the effects of the social modeling treatments *per se*, skills desired by the subjects could be used as the criterion variables to evaluate the outcomes of the social modeling procedures. Expressed interests of school officials, emphasis in the counseling literature, and personal preferences of the investigator served in the selection of decision-making behaviors as the dependent variables for the study.

The decision-making behaviors which the study used as outcome variables are: (1) exploration of alternative solutions, (2) collection of relevant information, (3) investigation of motivation, and (4) consideration of possible outcomes of alternative solutions. These are similar to those identified by Cronbach & Gleser (1965) and Gelatt (1962) as crucial in problem-solving. Specifically, the study investigated both the recall of the decision-making process, i.e., the four steps listed above, and the performance of overt, measurable, and self-initiated information-seeking behaviors carried out by the subjects subsequent to exposure to the treatment procedures.

Background and Related Research

The Education Gap of the Mexican-American Student

The educational and vocational choices which a student makes in high school control to a great extent the degree of social mobility he will achieve in life. Students who choose courses and/or vocations with little or no regard to the consequences of their decisions, often find themselves ill prepared to attend college or to enroll in programs of vocational training. Levin, Guthrie, Kleindorfer, & Stout (1971), for example, in their investigation of the relationship between school achievement and post-school success, raised the following question:

> If improvement in school services can increase student achievement and expand the number of years of schooling for a representative individual student, will such increases in educational performance improve that same individual's lifetime opportunity? (p. 2)

Levin et al. (1971) defined opportunity as "the quality and quantity of alternatives available to an individual for improving his and his family's overall economic, social, and political well being (pp. 2-3)." The dimensions of opportunity they investigated included lifetime earnings, occupational attainment, political participation, as well as social, economic, and geographic mobility for the individual and his children, school choice, military service options, and social deviance. Although the connection between educational achievement and lifetime opportunity is often taken for granted, the relationship is complicated by such factors as educational achievement of the parents, socioeconomic status, geographic location, and racial or ethnic membership. Still, Levin et al. (1971) reached the conclusion that ". . . educational attainment (defined as performance on standardized achievement tests and years of schooling completed) is related to opportunity in so many ways that the two terms seem inextricably intertwined in the mind of the layman and in the findings of the social scientist (p. 14)."

If the role of the school is significantly related to an individual's lifetime opportunities, the choice of and success in his courses of study will be crucial. Unfortunately, students from low socioeconomic backgrounds often program themselves--or are programmed (cf. Cicourel & Kitsuse, 1963; Hosford, 1971)--into courses of study that promote rather than help to change the student's social class standing, i.e., students from low socioeconomic backgrounds are more often placed in terminal high school programs than are middle class students having similar aptitude and achievement records. Palomares (1971b) and Vasquez (1971) reported that differential treatment in the school is particularly true for Chicano students. Similarly, the Research Organizing Cooperative of San Francisco (1971) stated that the ". . . oppression of black and brown children in the schools is made systematic by the tracking system. . . . If your child is placed on the 'vocational' track, he will be taught different materials, by teachers who know that he is not likely to go to college. And they are right. Once he is put on this track he hasn't much chance of getting off (pp. 182-183)."

Research (Brophy & Good, 1970; Rosenthal & Jacobson, 1968) has shown that teachers' expectations of the performance of their students operate as self-fulfilling prophecies. This would seem to indicate that differential treatment of students in programming courses of study and in classroom interactions is not only present where a minority student is systematically excluded from socially more desirable educational and vocational careers, but that often subtle teacher behaviors can direct student performances. Brophy & Good (1970) found that in many of the interactions they studied differential teacher expectations were associated with objective differences in the behavior of the children, but they could not account for all expectations in this way. Brophy & Good stated:

> The teachers demanded better performance from those children for whom they had higher expectations and were more likely to praise such performance when it was elicited. In contrast, they were more likely to accept poor performance from students for whom they held low expectations and were less likely to praise good performance from these students when it occurred, even though it occurred less frequently (1970, p. 365).

The obstacles encountered by the disadvantaged student should not lead to generalizations about many different groups. What is true for one subgroup, or even for most minority groups, is not necessarily valid for a specific minority group. The investigation of educational disparity arising from scheduling practices and teacher expectations may lead to general administrative classifications, but in formulating and testing procedures to remedy direct or indirect discrimination, emphasis should be placed upon assessing and assisting specific groups or even individual students. Edington (1970) warned that the analysis of educational disparity too often tends to be approached in terms of quantity rather than quality. In his study of rural youth he found that many investigators of the status of conglomerate groups produce excessive generalizations, and he called for ". . . more detailed appraisal research with a greater qualitative emphasis (p. 82)." It is thus important to evaluate the relative position of the Mexican-American as a specific group, distinct from other minorities and irrespective of such variables as geographic setting, age level, or socioeconomic status, and to note persistence over time. In other words, given the fact that the disadvantaged student in general tends to benefit less from the regular educational system, it is crucial to ascertain the level of achievement obtained by Chicano students.

Recent studies indicate strongly that the Mexican-American is educationally disadvantaged. Grebler, Moore, & Guzman (1970), for example, reported that for persons age 14 and over in the Southwest for the year 1960, the median number of school years completed was 12.0 for the Anglo ethnic group as compared with a median of 8.1 for the Spanish surnamed individuals, a discrepancy which cannot be explained solely in terms of immigration or language barriers. Ortega (1971) maintains that what at the moment ". . . best characterizes Mexican-Americans in the Southwest is that most of them have a limited and inadequate education (p. 157)." Schwartz (1969) stated: "While second generation Mexican-Americans often double the formal education of their fathers, there is little increase in the education of subsequent generations (p. 18)." Furthermore, the current dropout rate among Mexican-Americans is more than twice as great as the national average; in California 50% of the Spanish speaking students drop out of school by the time they reach the eighth grade (Ortega, 1971). Admittedly, dropping out of school is a complex problem which can be studied in terms of previously acquired behavior patterns (Gibson, Higgins, & Mitchell, 1967), role orientations (Savicki, Schumer, & Stanfield, 1970), personality characteristics (Vaughan, 1968), and other variables such as discrepancies between evaluations by counselors and dropouts themselves (Demos, 1968). However, the evaluation of educational attainment of Mexican-Americans as compared to that of Anglos definitely shows a significant disadvantage for the Chicano minority group. It appears that this trend is consistent over location and time. Although the relative position of the Mexican-American subgroup in respect to academic achievement may be similar to that of other minorities, the achievement of the Chicano student in particular may be affected by a ". . . lack of identity, caused by having been left out of history, literature, and society, except in negative respects (Vasquez, 1971, p. 208)."

Vocational Development

Although Ortega (1971) reported that only 2% of the California State College population is Mexican-American and that less than one-half of one percent of all Chicanos in the public schools of California are enrolled in the nine campuses of the University of California, and Levin *et al*. (1971) pointed to the relationship between educational attainment and opportunities later in life, college education cannot be equated with the only road to social mobility. The *California Guidance Newsletter* (1971) investigated job opportunities and their relationship to academic degrees and noted:

> One of the anachronisms of our present system of education is the unwritten code that assigns superior status to college education, a status which is not accorded any other type of education, such as in technical, commercial, business, sales, mechanical, and industrial skills. This unwritten code is an old tradition and is no longer relevent. It is time for us to realize that all forms of education merit equal status (p. 3).

Such a realization might help to change the high unemployment rate among Mexican-Americans. That there is a need for alterations of present trends is evident from a recent report by the U. S. Department of Labor (1971) which revealed that the unemployment rate among persons of Spanish origin is 1.7 times greater than that of all other persons in the labor force, and that the median family income of Chicano families is only 70% of that of other families. The same source evaluated the educational attainment level of Mexican-Americans as 23% below that of persons of other origins. These reports would indicate that there exists a need among Mexican-Americans to explore educational and vocational preferences and opportunities at a rather early age. Although a college education may be as important to a Chicano student as it is to his Anglo classmate, the greatest disparity appears to find its origin in alternatives considered and choices made during the years immediately preceding entrance into the labor force. Social mobility, then, may not be related so much to enrollment in higher education as to sophistication in the area of vocational and educational decision-making _per se_.

Whitney's (1969) review of the literature on prediction of vocational careers indicates that a person's expressed vocational choice points out his future employment about as well as do interest inventories or combinations of personality and background characteristics. According to Astin (1967), the best predictors of career outcomes at the 12th grade level in his study were the subjects' measured interests and expressed career choices at the 9th grade level. However, a major limitation of expressed choice as a factor in predicting careers is the large number of individuals who declare themselves "undecided" (Whitney, 1969). This indecision may be due in part to lack of understanding of and a failure to apply the decision-making process. Magoon (1964), for example, contends that effective vocational and educational planning is rarely present among adolescents. Many capable students drop out of school and enter vocations in which they subsequently fail because they go about the process of vocational decision-making without any systematic plan or procedure.

Although Hollender (1967) indicated that "realistic" vocational choices become more in accordance with measured ability and career requirements as the student advances in age, he reported in a later study (1971) that only 59% of his male population (made up of students in grades 6 through 12) had established a definite vocational choice. Especially noteworthy is Hollender's (1971) observation that the percentage of students in the lowest aptitude groups reporting definite vocational choice was greater in elementary school (6th grade) and senior high (grades 10 - 12) than in junior high school. Recalling that the median school years completed for Mexican-Americans is 8.1 (Grebler _et_ _al_., 1970), the relevance of vocational decision-making for Chicano students at a rather early age is evident. In addition, the observations of some authors (Ortega, 1971; Schwartz, 1969) leads one to suspect that many Chicano students are placed in the lower ability groups; therefore, Hollender's (1971) findings have particular relevance for Mexican-American children. Thus, learning how to make the educational, personal, and vocational choices to which he is exposed in life often is crucial for the Chicano student.

The Decision-Making Process

An increasing number of guidance personnel (Clarke, Gelatt, & Levine, 1965; Gelatt, 1962, 1964; Gelatt & Clarke, 1967; Katz, 1963; Krumboltz, 1964a, 1964b; Matheny, 1971; Wrenn, 1962) support the learning of effective decision-making behaviors as one of the most crucial goals in education in general, and in counseling in particular. The need for improved counseling procedures to enhance decision-making skills in students has been given considerable attention in the literature (Jones & Krumboltz, 1970; Krumboltz & Thoresen, 1964; Magoon, 1964; A. W. Miller, 1968; Super, Tiedeman, & Borow, 1961; Thoresen & Hamilton, 1972; Thoresen, Hosford, & Krumboltz, 1970; Thoresen & Mehrens, 1967; Thoresen & Krumboltz, 1968).

Minor, Myers, & Super (1969) declared that a major objective in student guidance and counseling is aiding each student in reducing uncertainty about educational and vocational plans. Since these plans often are subject to change and adaptation as circumstances alter, the counselor cannot rely on one particular answer to satisfy all eventualities. As Krumboltz (1965) stated:

> If a client terminates his contract with a counselor and is still bothered by the same problem that brought him to the counselor in the first place, that counselor has failed. If, on the other hand, the client has either solved the

> problem he brought to the counselor or planned a course of action that will eventually lead to a resolution of his problem, then the counselor has succeeded (p. 384).

In order to attain this goal, counseling interventions should take into consideration both the client's immediate and long-range objectives. The client will be best served if he can be taught the necessary decision-making behaviors that will enable him to solve current and future problems in his life and work, especially if he desires to go against traditional currents in society. It is, then, the process of decision-making, rather than the product, which should determine the focus of counseling.

One of the major concerns, not only of counseling, but of education as a whole, is to foster in each student the development which promotes self-initiated action for which the student himself accepts responsibility (D. R. Atkinson, 1971). However, there is agreement among some educators, e.g., Klausmeier & Goodwin (1966), Ringness (1968), that too much structuring of the learning process is done for the student without involving him in the process, something which makes the teaching of decision-making behavior even more obligatory for the counselor. Gelatt (1962) stressed that a major function of secondary school guidance lies in assisting all students in their development by providing decision-making experiences. However, he also remarked that often a coherent theoretical proposition is lacking in guidance programs which then ". . . continue to operate on untested assumptions toward untestable objectives (p. 240)."

Much of the research on problem-solving has limited itself to choice-making behavior after the alternatives were provided to the subjects (cf. Edwards & Tversky, 1967; Simon & Newell, 1971). The focus of this research has been on supplying alternative probabilities in chess playing, proofs in logic, and cryptarithmetic (e.g., De Groot, 1965; Simon & Newell, 1971). However, Dilley (1968) emphasized that the function of the school counselor in facilitating decision-making behavior encompasses far more than the selection of the most likely alternative. In order for the student to arrive at decisions which he himself accepts, Dilley urged the counselor to encourage within the students (a) belief in the continuity of current conditions and the predictability of the future, (b) belief that an individual has the responsibility to affect his future, and (c) belief that delayed action is generally superior to immediate action. Dilley held that there is everything to gain and little to lose by increasing the number of choices a client has, but he recognized that, unless encouraged, many persons will not normally consider a wide array of alternatives. It is, therefore, important that counselors so encourage the student, especially when we consider that the increase of available information can lead to revision of selected alternatives, and may alter the final choice (Cronbach & Gleser, 1965). This position supports Gelatt's (1962) premise that the student should learn how to collect data, how to make predictions and assess probabilities, and how to conduct evaluations of possible decisions. A good decision, then, is ". . . one which promotes the student's development toward desirable educational and vocational outcomes (Gelatt, 1962, p. 3)." Hence, it is mandatory in good decision-making that the person not only consider the various alternatives open to him, but that he be willing to accept the responsibility for the consequences of his decisions.

Thus, one of the major roles of the counselor is to increase the client's degrees of freedom. Although several counseling theorists (e.g., Krumboltz, 1966; Wrenn, 1962) have listed as one of the essential tasks of the counseling process the assisting of clients in learning how to make decisions and plans more effectively, too often counseling interventions have been limited to the distribution of factual material (Morrill & Forrest, 1970; Thoresen & Mehrens, 1967). While such information is certainly important, it would probably be more useful for the student to learn how to develop ". . . an effective strategy for analyzing, organizing and synthesizing that information . . . (Clarke, Gelatt, & Levine, 1965, p. 41)." Learning the process involved in decision-making can then be transferred to other situations in life (Evans, 1969; Di Vesta & Walls, 1967).

The Importance of Subjectivity in Decision-Making

It is generally assumed that there is a rational process that explains how decisions are or should be made (Thoresen & Mehrens, 1967), but the precise elements of this process are subject to discussion (Bross, 1953; Edwards, 1961; Simon & Newell, 1971). Thoresen & Mehrens (1967) suggested that two properties, the utility values, i.e., the desirability of the possible outcomes of the course of action, and the probabilities of these outcomes, are both crucial elements of the decision-making process. These two outcome parameters must also be evaluated by the individual when determining a possible course of action. In theory, it is assumed that the person selects the alternative which promises the highest payoff for him, although there is some disagreement as to whether the probabilities are arrived at subjectively or objectively. Edwards (1961) proposed the Subjective Expected Utility model (SEU), in which choice is determined by the subjective probability of a result, i.e., the extent to which the individual likes or dislikes an alternative. Thus, the objective probabilities are only important to the degree that they affect the subjective determinations which form the crucial element in the decision-making process.

The exact relationship between objective and subjective probabilities is unknown and may depend on the particular circumstances in which a decision is made. A choice, by necessity, is often largely that of agreement with the information available at the moment of final action. Bayes' theorem (Novick & Jackson, 1970) suggests that any additional objective probability information helps to bridge the gap between objective and subjective probabilities. While Novick & Jackson (1970) stressed the need of students for more information about objective facts (college curricula, etc.), Gelatt & Clarke (1967) pointed out the importance of subjective aspects of decision-making skills and recommended that students use specific relevant information to formulate estimates of possible actions. Most writers, however, agree that information-gathering is essential to good decision-making behavior and that subjective as well as objective information must be included.

Information-Seeking Behaviors

One of the causes of unrealistic educational and vocational decisions is the frequent inability of parents and students to evaluate post-high school alternatives (Gelatt, 1964); therefore, an effective guidance program must not only provide accurate information but also teach the process by which information can be obtained (Minor, Meyers, & Super, 1969). Computer-based information systems, as suggested by Minor *et al.*, may provide valuable assistance in disseminating relevant information, but one of the goals of counseling also involves assisting the student to learn how to change his decision-making behavior by increasing his activity and ability in collecting relevant data.

Usually it will not suffice merely to tell the student to gather relevant information. If the student knows where to find material and how to sort out the data pertaining to his particular situation, a verbal prompt may stimulate him to take appropriate action, but the counselor cannot assume that these prerequisites have been met.

In relation to information-seeking behaviors, as well as to many other counseling interventions, counselors cannot afford to limit their activities to verbal interchange. Matheny (1971) urged guidance personnel to engineer specific experiences of their counselees to include the arrangement of external conditions so that various types of learning will result, e.g., learning how to collect pertinent information. Halpern & Norris (1968), in their investigation of how 10th-grade students process information to arrive at curriculum decisions, found that the types of information judged by experienced school counselors to be most relevant were similarly selected by students. The subjects in this study were asked to adopt the role of a high school counselor faced with a curriculum decision for an imaginary student; they were then provided with data about this student which included information regarding his abilities, values, interests, and plans. Halpern & Norris (1968) reported that abilities was not only the information area most frequently (48%) selected as the first choice by their subjects, but that it remained the most frequent second and third choices regardless of the first area selected. It is interesting that information related to values was consistently the least frequently selected source in this experiment. Katz

(1963) considers values a crucial element in decision-making, but neither students nor counselors in the study by Halpern & Norris (1968) seemed to agree. It is, of course, possible that the students not only assumed the roles of counselors but also accepted the "known" value system. Halpern & Norris warned that their findings might be ". . . more reflective of how students behave within an idealized situation and less reflective of how students typically behave (p. 241)."

A recent investigation by Biggers (1971) was concerned with the types of information typically employed by students in vocational decision-making. Subjects--294 boys from grades 4, 6, 8, 10, and 12--were presented with a forced choice in one of 15 triads of occupations. The decision-making process required that the students use information given to them concerning the three occupations. Analysis of the data indicated that, although a variety of informational categories was used, about 60% of all student responses fell in the general class of "type of work." Information regarding education or training, income, working conditions, interests, and skills was used relatively little. Biggers did not find a developmental trend toward the using of more diversified information as the students progressed in age and grade-level, which suggests that students not only have to learn how to locate sources of relevant data but also have to acquire the ability to employ many types of information in the decision-making process.

Thoresen & Mehrens (1967) noted that any type of information that is considered relevant by the student should, theoretically, modify the subjective probabilities. This leads to the question of whether or not the procedure of organizing and presenting objective information has an impact on perceived chances of success. Yabroff (1964) presented evidence that a workbook format may be effective in providing data to students; other possibilities would include information presented orally by counselors, information organized in programmed texts, or data presented via audio- and videotapes. Research to date indicates that objective information does play a role in decision-making and that students therefore should be taught skills necessary for locating and organizing relevant data.

If the student has ample sources of information available to him and, in addition, has acquired the ability to gather relevant data himself, then he can focus on the exploration of alternatives and their relation to his potential and desires. In the words of Minor _et_ _al_.:

> The student should be able to sharpen his focus on goals, thereby making his high school course selection and curriculum more meaningful to him. His educational and vocational planning generally should be more efficient, thereby reducing the number of time-consuming and costly false starts. Culturally disadvantaged students may become more educationally and vocationally mobile (1969, p. 568).

Goal Formulation

The dual aspect of decisions--reflecting the desires of the individual and the needs of society--is generally recognized (Novick & Jackson, 1970), but the interrelationship between personal choice and the impact of meaningful reference groups is not sufficiently clear. Sears (1940) found that school children with histories of chronic failure set unrealistically high levels of success, while successful children set goals which they could reasonably hope to achieve. From their early investigations Lewin, Dembo, Festinger, & Sears (1944), and Hilgard, Sart, & Magaret (1940) concluded that individuals in a group situation tend to direct their goals toward levels which they perceive to be the average performance of the group and toward the predominant success level within the group. An individual's choice between alternative behaviors is directly linked to the degree of success he desires and his assessment of the probabilities associating actions with possible outcomes (J. W. Atkinson, 1957; J. W. Atkinson, Bastian, Earl, & Litwin, 1960; Matheny, 1971; Siegel, 1957; Starbuck, 1963). Thus, the findings of these studies would seem to indicate that an individual's perceived similarity with a meaningful reference group, e.g., similarity of ethnic background, would strongly influence his formulation of personal goals.

Modern decision theory (Edwards, 1961; Thoresen & Mehrens, 1967) suggests that the ways in which an individual processes objective information is not independent from the expectations and attitudes he has about himself. More specifically, the formulation of a certain goal, ". . . the decision to select a particular course of action from among others is determined by what the individual himself thinks and feels are his chances of success (subjective probabilities) and how much he values and desires particular outcomes (utilities) (Thoresen & Mehrens, 1967, p. 170)." Theoretically, as we have seen above, objective information reduces the discrepancy between objective and subjective probabilities of projected goals, but research to determine to what extent meaningful reference groups affect goal formulation is badly needed.

Astin (1968) found that the career-plans of ninth grade girls changed between the beginning of high school and one year after graduation. Most reported change was in accordance with scores on the four ability measures used in the study. Similarly, Berdie, Layton, Swanson, & Hagenah (1963) stated that students ". . . see the need to balance their desires and motivations with their probabilities for success and realize that within limits theirs is the responsibility for determining what odds they wish to risk (p. 129)." However, the importance of a gambler's strategy based on so-called hard facts may be easily overrated in guidance decisions. Although Keislar & Stern (1970) reported that complicated decision rules with a high potential pay-off were advantageous for children in high mental age groups whereas the reverse was true for children in low mental age groups, Gelatt & Clarke (1967) maintain that factors like personal involvement and arousal of achievement-related motives usually play an important part in educational-vocational decisions. Likewise, several studies (e.g., J. W. Atkinson, 1957; J. W. Atkinson, Bastian, Earl, & Litwin, 1960; Feather, 1963; Lewin, Dembo, Festinger, & Sears, 1944; Sears, 1940) reported "level of aspiration" and achievement motivation to be crucial variables in goal formulation.

The educational and vocational decision-making process is described by Hershenson & Roth (1966) as (a) narrowing the range of possibilities, and (b) strengthening the remaining possibilities. This is in agreement with the two requirements of a "good" decision proposed by Clarke, Gelatt, & Levine (1965), i.e., (a) the need for adequate information, and (b) the need for an effective strategy for analyzing, organizing, and synthesizing that information. Morrill and Forrest (1970) criticized the traditional career counseling approach as too information-oriented. Even the teaching of decision-making skills does not meet the standards of Morrill & Forrest who recommend a focus ". . . on creating in the individual the ability to utilize his own strength to achieve self-determined objectives and to influence the nature of future opportunities (1970, p. 299)." It would appear, however, that the collection of relevant information does influence the choice among probable alternatives and that, in turn, subjective choice of possible courses of action would promote the gathering of additional information. This reciprocal process would hardly create a passive and dependent individual.

The review of the literature in decision-making has implications for research in this area. If individuals are to make effective educational, vocational, and personal decisions, they need to learn how to (1) survey possible alternatives open to them; (2) collect and use relevant data pertaining to educational, vocational, and personal goals; (3) take into account their own motivational reactions to each goal and outcome; and (4) consider the probability of success and possible consequences, objectively and subjectively, for each alternative (Cronbach & Gleser, 1965; Gelatt, 1962; Gelatt & Clarke, 1967; Krumboltz & Thoresen, 1964; Thoresen & Hamilton, 1972; Thoresen & Mehrens, 1967; Varenhorst, 1964).

Behavioral Counseling

While the need for skillful decision-making is evident, the specific techniques a counselor might use to promote this behavior are still insufficiently known. Some of the problems encountered in applying theoretical principles of decision theory to guidance practice are summarized by Clarke, Gelatt, & Levine (1965) as follows: (1) real-life situations are far more complex than theoretical models; (2) objective criteria for evaluating and selecting strategies are unknown; and (3) no knowledge about relative preferences of various outcomes is available.

There have been several distinct theories advanced on the ways in which educational and vocational decisions might be promoted. For example, Super (1966) and Tiedeman (1966) based their theories on developmental stages; Holland (1959) and Roe (1966) formalized their suggestions around personality constructs; Hoppock (1959) stressed motivational concepts; while Bordin, Nachman, & Segal (1963) and Roe (1966) employed psychoanalytic assumptions. Some writers in the field (e.g., Hosford, 1969a; Krumboltz, 1964a, 1965, 1966; and A. W. Miller, 1968) claim that one of the most efficient approaches in solving particular problems, and one which at the same time offers generalized learning principles for the problem-solving process, is behavioral counseling. This counseling theory combines a rationale based on experimental research (Bandura, 1962, 1969; Bandura & Walters, 1963; Krasner & Ullmann, 1965) with specific techniques to be used in the counseling process to aid the client in acquiring those behaviors necessary for solving current and future problems (McGinnies & Ferster, 1971; Krumboltz & Thoresen, 1969; Ullmann & Krasner, 1965). This empirical approach is seen by some behavioral counselors as an expression of humanistic concern for the client; e.g., Hosford & Zimmer (1972) stated:

> Humanism, i.e., helping our fellow man achieve his greatest potential in life, is best served

> when we use the scientific method to help us be more effective. In our view, counseling is more effective and humanism is best served when the principles of science, as exemplified by behavioral counseling, are an integral part of the process. In keeping with the spirit of scientific inquiry, counseling needs to be continually open in order to promote the principles of humanism (p. 168).

Staats (1968) identified three general causes of behavior problems: (1) the person does not have command of the behavior required for successful adjustment in our society; (2) the person exhibits behaviors which are considered undesirable in our society; and (3) the person's motivational or reinforcement system is inappropriate in some respect. If we accept both this and Lundin's (1969) point of view that ". . . psychology is the study of observable behavior and that the way to understand behavior is through the methods of careful observation and experimentation (p. 34)," then behavioral counseling would seem to be particularly appropriate for teaching decision-making behaviors to students who lack these skills in their repertoire or who exhibit them in socially inappropriate ways, or to students who are motivationally deficient in this respect (cf. Staats, 1968).

When client problems are conceived as problems in learning, as Krumboltz (1966) has suggested, counselors can promote student self-initiated action by establishing learning conditions conducive to acquiring the desired behaviors. The behavioral counselor views decision-making ability as a learned behavior which, after proper generalization, can be applied to other problems the client may encounter, whether they be educational, vocational, or personal. The generalization of skills learned in the counseling interview to situations outside the counseling setting would aid school counselors who traditionally have been concerned with promoting student-initiated action on personal, educational, and vocational goals (D. R. Atkinson, 1971; Mortensen & Schmuller, 1966; Ohlsen, 1964). Tyler (1961), for example, maintains that a desired counseling result is that the client take some constructive action on his own behalf. Constructive student activities can include decision-making behaviors:

> Others may claim that the practice of dealing with problem behavior in its natural setting does not help the client to deal with his other problems. On the basis of the psychological experimental literature I have every reason to believe that the best way to produce a good problem-solver is by giving him training in the techniques of solving problems in specific situations (Bijou, 1966, p. 33).

However, the teaching of decision-making behaviors by counselors cannot be taken for granted; Graff & MacLean (1970) reported that of their subjects who had received counseling from beginning practicum students, advanced trainees, and doctoral level staff, ". . . a large proportion . . . indicated . . . that they had received no help . . . in learning about how to make educational-vocational decisions (p. 371)." The degree of counselor training correlated positively with many counseling outcomes investigated by Graff & MacLean, but the teaching of decision-making skills was conspicuously missing.

Numerous studies based on behavioral counseling principles have demonstrated that clients can learn and maintain new behaviors or eliminate undesirable behaviors. Successful treatments include: eliminating school-phobia (Tahmisian & McReynolds,1971), reducing test anxiety (Weinstein, 1969), eliminating insomnia (de Visser, manuscript), improving study behaviors (Jones, 1969) and overcoming underachievement (Beach, 1969) or fear of speaking in a group (Hosford, 1969b). Some authors reported successful training of assistants in the application of behavior modification procedures; these include parents (Patterson, 1969; Tahmisian & McReynolds, 1971), teachers (Hosford, 1969c) and counselors (Frankel, 1971). Krumboltz (1966) mentioned four counseling approaches which are claimed to be particularly effective in teaching decision-making: (1) operant learning by reinforcing certain desired responses (Krumboltz & Schroeder, 1965; Krumboltz & Thoresen, 1964; Ryan & Krumboltz, 1964); (2) cognitive learning via verbal instructions, contracts, role playing, or programmed instruction (Yabroff, 1964); (3) classical conditioning, e.g., reciprocal inhibition and desensitization (Lazarus, 1961; Wolpe, 1958, 1969); and (4) imitation and modeling, where the counselor arranges for the client to observe models who display more adaptive behaviors (Krumboltz & Thoresen, 1964; Meyer Strowig, & Hosford, 1970; Stilwell & Thoresen, in press; Thoresen & Hamilton, 1972; Thoresen, Hosford, & Krumboltz, 1970; Thoresen & Krumboltz, 1968; Thoresen, Krumboltz, & Varenhorst, 1965, 1967).

It is evident from such studies that behavioral counseling has done much to aid school counselors in teaching decision-making behaviors. Procedures implementing the social learning principles related to imitation and modeling have been particularly effective, as the research by Krumboltz and his associates demonstrates. Social learning theory (Bandura, 1962, 1965, 1969; Bandura & Walters, 1963) has stimulated considerable research showing that observing social models has profound effects on the subsequent behaviors of observers (Bandura & Huston, 1961; Bandura & Kupers, 1964; Bandura & McDonald, 1963;

Bandura, Ross, & Ross, 1961, 1963a, 1963b, 1963c). The experiments of Bandura and his students presented evidence that the use of models can be an effective procedure for transmitting entire behavioral repertoires, for facilitating or inhibiting existing response patterns, or for serving as discriminative or response facilitative stimuli.

Social Model Learning

The essence of social model learning lies in the matching of model-exhibited behavior by an observer. This process has been referred to as imitative learning, identification, vicarious learning, matched dependent behavior, and indirect learning (Thoresen, 1964). Bandura (1962) associates the type of learning labeled "identification" with personality theorists, and the type called "imitation" with behavior theorists. He maintains, however, that the two concepts can be treated ". . . as synonymous since both encompass the same behavioral phenomenon, i.e., the tendency for a person to match the behavior or attitudes as exhibited by actual or symbolized models (Bandura, 1962, p. 215)."

One of the earliest models for imitative learning was presented by Miller & Dollard (1941). They conceived of vicarious learning as a special case of instrumental conditioning in which the initial imitative act--a matter of chance--is strengthened when the execution of the new behavior leads to a reduction of some drive in the observer. This process is in full accord with the instrumental or operant conditioning paradigm (Skinner, 1953, 1969; Staats, 1968), but since Miller & Dollard's subjects were reinforced for matching the behavior of the social models, the effects of the model per se remained unclear.

Bandura (1962) and Bandura & Walters (1963) explained the Miller & Dollard approach as a special case of discrimination-place learning in which the behavior of the model operates as a discriminative stimulus to increase the probability of a response already present in the behavioral repertoire of the observer. The crux of imitation or identification, according to the Bandura position, is the individual's acquisition of new responses solely by observing the execution of the behavior by the model. The observer may or may not perform the new behavior at the time he is exposed to the model, and may or may not be rewarded for exhibiting the behavior, but acquisition of the modeled response would tend to occur under any of these conditions.

Mowrer (1960) proposed a third explanation of imitative learning. His proprioceptive feedback theory states that the modeled cues acquire the capacity to evoke specific conditioned emotional reactions in the observer; this reduces imitative learning to the process of classical conditioning in which reinforcement for matching observed behavior is not necessary. According to Mowrer, rewarding the model is sufficient to promote imitative behavior since the model's behavior acquires secondary reinforcing properties for the observer. Exhibition of the new response by the observer may be effective in eliciting external reinforcement, thus maintaining the novel behavior and making its occurrence more probable through instrumental conditioning.

There is some evidence to support Mowrer's vicarious conditioning theory (Bandura & Huston, 1961; Bandura & McDonald, 1963; Bandura, Ross, & Ross, 1963c). For example, Bandura, Ross, & Ross (1963c) demonstrated that if children saw an aggressive model punished they were less likely to perform the modeled behavior than they were if they saw the model rewarded. However, other similar studies by Bandura, Ross, & Ross (1961, 1963b) showed that although a number of subjects in the model-punished condition did not demonstrate the aggressive behavior, they were able to describe the model's responses with considerable accuracy in post-experimental interviews. Bandura (1965) explained this phenomenon as follows: "Evidently, they had learned the cognitive equivalents of the model's responses but they were not translated into their motoric form (p. 329)." The studies by Bandura, Ross, & Ross (1961, 1963a, 1963b, 1963c) and by Bandura, Grusec, & Menlove (1966) are discussed by Yates (1970) who concludes his overview by stating: "These studies appear to demonstrate unequivocally that vicarious learning may occur, even in the absence of vicarious reinforcement (p. 411)."

The issue is still not resolved. Skinner (1969) stated:

> To define imitation simply as behaving as someone else is behaving is to mention stimuli and responses but to neglect the consequences, and it is the consequences which are either phylogenic or ontogenic (p. 200).

And again in the same source:

> Quite apart from any instinct of imitation, we learn to do what others are doing because we are then likely to receive the reinforcement they are receiving. We must not overlook distinctions of this sort if we are to use or cope with imitation in a technology of behavior (p. 195).

Thus, Skinner fully maintains the operant model and explains both acquisition and maintenance of behavior in terms of the consequences of responses (1953, 1966, 1971). The same position is held by Staats (1966, 1968):

> More recently, imitation (or social learning or modeling) has been discussed in a somewhat inconsistent way; as though it were a basic principle (Bandura, 1962), and at other times in terms of the straightforward application of reinforcement--without including the explanatory principles of discriminative stimulus control (Bandura, Ross, & Ross, 1963) or other S-R mechanisms such as verbal behavior (1968, p. 442).

Staats (1968) recommends a pluralistic approach, consisting of three elements to account for a complete explanation of imitative phenomena: (1) a sensory-motor skill in which certain social stimuli control imitation; (2) the reinforcing values of matching stimuli; and (3) the reinforcement value of social stimuli controlling imitational behavior. Bandura, however, has not been obliged to change his position that social modeling presents a learning approach different from, but consistent with, classical and operant conditioning. He reviewed his original research findings and again presented his theoretical rationale, enumerating three effects of social model learning (1965, 1969): (1) the modeling effect involving the acquisition of new responses; (2) the inhibitory and disinhibitory effects explaining the strengthening or weakening of responses already present in the observer's repertoire; and (3) the response facilitation effect concerning the elicitation of known observer responses which resemble the behaviors of the model.

Bandura (1969) accounts for imitative learning by the contiguity theory of observational learning which postulates that contiguity of sensory stimulation is the sole requirement for the acquisition of most forms of matching responses. This process is independent of motivation, reinforcement, overt practice, and similar requirements of instrumental conditioning; these variables are regarded as facilitative rather than as mandatory in social model learning. However, it is important to keep in mind that the contiguity theory refers to the acquisition of novel imitative responses. Reinforcement is still important in Bandura's rationale, but is viewed as influencing performance rather than acquisition of modeled behavior. Bandura (1969) stated:

> Contiguity theory . . . distinguishes between acquisition and performance. Learning, according to this view, can occur through contiguous association of stimulus events and accompanying cognitive processes in the absence of immediate rewards and punishments . . . Although response acquisition is largely dependent upon stimulus contiguity, reinforcement variables are considered to be highly influential in regulating performance (p. 224).

The argument is that reinforcement explanations of imitative behaviors fail to account for learning novel responses in cases where the observer does not exhibit the behavior demonstrated by the model during the period of acquisition, and when neither the model nor the observer is rewarded. Bandura's (1971) explanation of learning through imitation runs as follows:

> . . . when an observer witnesses a model exhibit a sequence of responses, the observer acquires, through contiguous association of sensory events, perceptual and symbolic responses possessing cue properties that are capable of eliciting, at some time after a demonstration, overt responses corresponding to those that had been modeled (p. 76).

This does not mean that simple exposure to a model will guarantee that the observer will learn the demonstrated response or response pattern. The degree of imitative learning depends on rate, amount, and complexity of the stimuli presented to the observer, and particularly on attention-directing variables (Bandura, 1965, 1971). It is in this respect that perceived similarity between model and observer, e.g., similarity of ethnic background, may prove to be a crucial factor in social model learning.

Further investigation of variables influencing social model learning is badly needed. Yates (1970), for example, stated:

> We may conclude by observing that Bandura's techniques of modeling appear to hold exceptionally high promise for therapeutic purposes and that the relative neglect of his work on modeling by behavior therapists is completely unjustified (p. 414).

Bandura (1971) also called for more research ". . . in identifying variables that combine with contiguous stimulation in governing the process of imitative response acquisition (p. 80)." Finally, London (1971) has remarked that it still may be too early for theory building in behavioral counseling and therapy; ours may be the time to investigate which methods work and to improve on the efficacy of profitable procedures.

Influence of Models

It is, of course, impractical, if not impossible, for a counselor to provide the student with a sufficient variety of direct experiences which will yield information about the consequences of all possible future decisions. Therefore, a knowledge of the experiences which other people have had in similar situations may furnish a valuable source of information in the decision-making process. Recently, research emanating from social learning theory (Bandura, 1962, 1965, 1969; Bandura & Walters, 1963; Bourdon, 1970; Kanfer & Phillips, 1970; Wotke & Brown, 1967) has shown that observing models who demonstrate the behaviors an individual needs to learn, has profound effects on the subsequent behavior of the observers. These results have led Bandura (1965) to state:

> While operant conditioning methods are well suited for controlling interesting responses, they are often exceedingly laborious and inefficient for developing new behavioral repertoires. The fact that a patient and persistent experimenter may eventually develop a novel response in an organism through the method of successive approximations, *provided he carefully arranges a benign environment in which errors will not produce fatal consequences*, is no proof that this is the manner in which social responses are typically acquired in everyday life (p. 313).
>
> (italics are those of Bandura)

Learning from the experiences gained by other people is a normal procedure in the academic process of the regular school-setting and there does not seem to be a valid reason why this procedure would not be applicable to a counseling situation. There is evidence available indicating that vocational choices correlate with fathers as role models (Bell, 1969; Marr, 1965; Mussen & Distler, 1959); this relationship is present not only in cases of high-achieving students (Ringness, 1965), but also in cases of average- and low-achieving bright junior high school boys (Ringness, 1967). Similar parental modeling patterns for actual and predicted achievement of junior high school girls were reported by Ringness (1970).

When an individual faces a decision and evaluates possible alternatives to determine his preferred course of action, success or failure experienced in similar situations by others will influence the ultimate decision made (Bandura, 1962; Kagan, 1971). In accordance with this position, Chapman & Volkman (1958), Feather (1959, 1963) and Yabroff (1964) indicated that in the absence of direct experience with a task, individuals will use norms for meaningful reference groups in estimating their chances of success. Kagan wrote:

> The child is more likely to believe he can command power, glory, or greatness if someone of his own sex, ethnic, religious, or racial group has done so in the past (1971, p. 62).

Learning new behaviors through imitation is not limited to the specific behavior demonstrated by the model, but generalizes to similar actions (Garcia, Bear, & Firestone, 1971; Gewirtz & Stingle, 1968; Zahn & Yarrow, 1968). Although the theoretical explanations of this phenomenon of generalization differ (Bandura, 1962, 1969; as opposed to Gewirtz & Stingle, 1968) it seems apparent that modeling procedures have a relative superiority over operant conditioning techniques in learning situations where reliable eliciting stimuli, apart from discriminative cues provided by social models, are absent (Bandura, 1965).

The influence of models has been studied in interview responses (Spiritas & Holmes, 1971), self-references (Myrick, 1969), and verbal learning (Sarason, 1968).

Similarly, overt action by subjects has been researched (Bandura, Ross, & Ross, 1961, 1963a; Epstein, 1966; Rimm & Mahoney, 1969). The investigation by Rimm & Mahoney (1969) is of particular interest because of the ingenuity with which the subjects were used. The study consisted of two parts; in the first part snake-phobia was treated by means of (a) contingent token reinforcement; (b) non-contingent token reinforcement; or (c) money reinforcement. A control group was also included. Although a slight improvement was found for all four groups, none changed significantly and no sign of inter-group differences was found. After a two-week follow-up had failed to show generalization of the results of these treatments, the subjects were again assigned to either experimental or control groups. The treatment in the second experiment consisted of participant modeling in accomplishment of the tasks in the 17-step screening device. Under this second condition, a 59.6% improvement was reported for the experimental subjects but only 4.1% for the controls. This research evidence further supports Bandura's (1965) contention that social modeling can be a very effective method in altering complicated behavior patterns of observers. Particularly in cases where the possible outcomes of certain actions are unknown and/or anxiety-provoking for an individual, observing other persons perform these behaviors may provide the stimulus to engage in these behaviors oneself, thus eliminating a time-consuming shaping process.

Kanfer & Duerfeldt (1967) found that observation of a model can effectively replace much of the trial and error learning typically used in developing task mastery; hence, experiences which influence future behavior can be obtained through direct or vicarious learning while the vicarious process may be more efficient. In regard to educational and vocational counseling specifically, several studies (e.g., Meyer, Strowig, & Hosford, 1970; Krumboltz & Schroeder, 1965; Krumboltz & Thoresen, 1964; Thoresen & Hamilton, 1972; Thoresen, Hosford, & Krumboltz, 1970; Thoresen & Krumboltz, 1968) have demonstrated that counseling procedures employing appropriate social models have significantly increased the vocational information-seeking behaviors among male and female high school students from urban and rural areas.

Symbolic Models

As Yates (1970) has pointed out, social modeling has proved to be an economical and non-threatening procedure for teaching observers new behaviors. The utilization of social models can be even more advantageous when the modeled behavior is presented through media that can be easily administered and stored. Several studies (e.g., Bandura & Menlove, 1968; Bandura, Ross, & Ross, 1963b) have indicated that symbolic models in the form of films or audio- and videotape recordings may be as effective as, and more efficient than, live models. Bandura, Ross, & Ross's (1963b) replication of their earlier study (1961) used the same models as did their first investigation but substituted film for live models. Analysis of the two sequential studies by the authors not only showed that children exposed to live or film models of aggressive behavior exhibited more aggressive behavior than did children exposed to non-aggressive models, but also that children who viewed real-life models did not differ in total aggressiveness from those exposed to film models. The investigation by Bandura & Menlove (1968) was a replication of the findings of Bandura, Grusec, & Menlove (1967); both studies were concerned with the overcoming of dog-avoidance behavior, with the earlier study using live models and the latter film-mediated models. Comparison of these two experiments suggests that live demonstration of the desired behavior is more effective than symbolic modeling. However, the Bandura & Menlove (1968) study presented both single-model treatment and multiple-model treatment;

evaluating the results of these two forms of symbolic modeling against live modeling in learning to overcome avoidance behavior led Bandura to state: ". . . the diminishing efficacy of symbolic modeling can be offset by a broader sampling of models and aversive stimulus objects (1969, p. 180)." The research findings described above (Bandura, Grusec, & Menlove, 1967; Bandura & Menlove, 1968; Bandura, Ross, & Ross, 1961, 1963b) seem consistent with Bandura's (1969, 1971) contiguity theory of observational learning. Live or symbolic models appear equally effective in the acquisition of novel responses; however, in cases of avoidance behavior, additional stimuli may be required in order to obtain performance of responses learned imitatively through the use of symbolic, rather than live, modeling.

Successfully used symbolic models include: audiotaped high school counseling interviews (Krumboltz & Schroeder, 1965; Krumboltz & Thoresen, 1964; Meyer, Strowig, & Hosford, 1970; Stilwell & Thoresen, in press; Thoresen, Hosford, & Krumboltz, 1970; Thoresen & Krumboltz, 1968); audiotaped adult therapy sessions (Truax & Carkhuff, 1964); audiotaped modeling in group counseling on underachievement (Beach, 1969); audio- and videotaped initial counseling interviews (Myrick, 1969); and videotaped high school counseling interviews

(Varenhorst, 1964); videotaped role playing in job interviews (Logue, Zenner, & Gohman, 1968); videotaped modeling in microcounseling (Frankel, 1971); and audio- and videotape techniques in counselor education (Yenawine & Arbuckle, 1971). D. R. Atkinson (1971) investigated the promotion of student-initiated responses on counselor-suggested activities. The three behavior modification techniques used in that study were: (a) cue presentation plus systematic reinforcement; (b) videotaped social models plus reinforcement; and (c) role playing plus reinforcement; in addition, there was a control procedure consisting of counselor contact without reinforcement. Atkinson found that role playing was no more effective than the control procedures, but that both cue presentation plus reinforcement and videotaped social modeling plus reinforcement resulted in student action on a greater proportion of the suggested activities than occurred in the control group.

Social Model Characteristics

Observation of a model does not in itself guarantee that the specific desired learning will occur. Social learning theory (Bandura & Walters, 1963) submits that the extent of imitative behavior is influenced by characteristics of the social model, the observer, and the situation.

Thoresen & Krumboltz (1968) remarked that counseling research using social modeling procedures has rather consistently found that some client-observers are more influenced by modeling procedures than others; in addition, they noted that ". . . the specific model characteristics that will promote imitation by different types of observers is not at all clear (p. 393)." Kagan (1971) suggested that peers often have a strong teaching influence on others in their group since the child readily perceives someone of his own age, sex, or ethnic group, or someone who possesses other characteristics which the child considers essential, as a model he can imitate. Research has generally found that vicarious experiences are enhanced by perceived similarity but the reasons for this have not yet been adequately established (Bandura, 1969). A likely explanation may be found in terms of the outcomes of modeled behaviors as perceived by the observer since one would expect persons perceived as sharing interests and characteristics with oneself to share many experiences and outcomes as well. While discussing this issue, Bandura (1969) wrote:

> A number of attention-controlling variables, some related to incentive conditions, others to observer characteristics, and still others to the properties of the modeling cues themselves, will be influential in determining which modeling

> stimuli will be observed and which will be ignored (p. 136).

Situational factors of modeling cues in group counseling have been studied by Hansen, Niland, & Zani (1969); their elementary school subjects produced more of the criterion behavior in the model treatment condition than did subjects in reinforcement or control conditions. Similarly, as described above, Bandura & Menlove (1968) investigated situational factors in social learning by presenting single and multiple model treatments; although the multiple model treatment was more effective than single model treatment, both conditions resulted in a significant increase of approach behavior to a feared dog.

Social learning theory is not only concerned with an explanation of modeling influences _per se_, but must also take into account ". . . why, under essentially identical conditions of modeling stimulation, some persons display higher levels of response acquisition than others (Bandura, 1969, p. 137)." Several studies have investigated characteristics of observers; for example, Patterson, Littman, & Brown (1968) reported that negative set scores of observers correlated negatively with scores assessing effects of modeling for young boys, but that this negativism was less obvious for older boys. Similarly, there is research indicating that observer characteristics are associated with different observational patterns, e.g., dependency (Jakubczak & Walters, 1959; Kagan & Mussen, 1956); self-esteem (de Charms & Rosenbaum, 1960; Gelfand, 1962); level of competence (Kanareff & Lanzetta, 1960; Kanfer & Duerfeldt, 1967); and socioeconomic and racial status (Beyer & May, 1968). Kanfer & Duerfeldt (1967), for example, found that in learning nonsense syllables, subjects exposed to models early in the acquisition stage learned significantly better than subjects exposed to models in later stages of the learning process. Model competence and duration of exposure did not appear to affect learning significantly in the Kanfer & Duerfeldt study, but exposure to models late in acquisition had a disruptive effect on learning. Numerous studies provide evidence that the sex of observers influences vicarious learning. For example, differences between sex of model and sex of observer were found to influence the extent to which the imitative behavior was elicited (Bandura, Ross, & Ross, 1961, 1963b; Rosenblith, 1959, 1961; Thoresen, Krumboltz, & Varenhorst, 1965, 1967). In general, it was found that male models were more effective for both male and female subjects than were female models. The role of sex in vicarious learning is not yet clear, however, since social approval of sex roles confuses the outcomes. For instance, Bandura, Ross, & Ross (1961, 1963b) studied imitation of aggressive behavior, and Thoresen, Krumboltz, & Varenhorst (1965, 1967), vicarious learning of career exploration; both types of imitative behavior may well be socially more acceptable for males than for females.

A third crucial element in social learning research concerns the characteristics of the model. This variable is of particular importance because it can often be most easily manipulated if one desires to present models of a specific kind in educational and/or counseling settings. Bandura (1969) sees ". . . the acquired distinctiveness of model attributes . . . (p. 136)" as an essential aspect in social learning since the observer has come to associate certain modeling cues with differential probabilities of reinforcement. Discrimination between model characteristics is also emphasized by Miller & Dollard (1941) and Staats (1968). Specific model characteristics such as age (Bandura & Kupers, 1964), social power (Bandura, Ross, & Ross, 1961, 1963a; Grusec & Mischel, 1966; Mischel & Grusec, 1966), social status (Lefkowitz, Blake, & Mouton, 1955), competence (Mausner & Bloch, 1957; Rosenbaum & Tucker, 1962), and ethnic status (Epstein, 1966; Mason, 1969), have significantly affected the degree to which observers have selected and imitated models possessing these attributes.

The interaction of model and observer characteristics may increase or decrease imitative learning in observers. Henker & Rotter (1968) investigated the influence of three types of inter-personal contact--rewarding, neutral, and critical--on subsequent imitation; the effect of these roles was explored in two contexts, i.e., play and task situations. It was found that the predicted tendency for differential imitation of the three model roles was not significant; the mean of imitative acts for the rewarding model was 11.97, for the critical model it was 10.23, and for the neutral model 9.47. Similarly, the interaction of high, medium, and low academic, social, and athletic success, was investigated by Thoresen, Hosford, & Krumboltz (1970) and by Thoresen & Krumboltz (1968). Although the experimental subjects did not consistently exhibit more of the criterion behavior, i.e., information-seeking, than did the control subjects, it was found that different athletic and academic success levels caused significant differences in frequency of the criterion behavior.

Background similarity of model and observer and its influence on subsequent imitative behavior was studied by Burstein, Stotland, & Zander (1961) and Long (1969).

Long introduced film-mediated models as similar or dissimilar to ninth grade female students described by school personnel as psychologically absent during class hours. The results of that investigation supported the hypothesis that similar models are more effective than dissimilar models in eliciting imitative behavior. It should be noted that Long found a strong school effect, suggesting that the type of school may be very important in applying and evaluating social model learning. The same point of school effect was stressed by Thoresen, Hosford, & Krumboltz (1970) who reported a strong Subject Success Level--Model Success Level--Counselor-School interaction. Studies investigating model and observer characteristics and their interaction may, therefore, benefit by limiting their subjects to one school, thus controlling for school effect.

Ethnic Variables

One of the major motives which mediate behavior change, according to Kagan (1958, 1971), is the desire of the individual to maximize similarity to a model. Subjects wish to maximize similarity to a desirable model in order to share vicariously in his resources. The question then arises as to whether the individual strives to be like someone whom he is already like, or like someone who is in some sense different in a positive way. Research indicates that observed similarity resulting in the observer's attempts to become more like the model can be based on physical attributes, e.g., sex (Feshbach & Roe, 1968; Thoresen, Krumboltz, & Varenhorst, 1965, 1967), or on the fact that model and observer are called by the same categorical name, e.g., when observers are told that they are similar to the model they observe (Rosenkrans, 1967). In either case, it would appear that the observer perceives some initial similarity to the model, thus raising the probability of his sharing vicariously in the model's resources.

One characteristic in social models, counselors, and observers that would often be readily perceived is ethnic similarity. Unfortunately, Zirkel (1971), after a thorough review of recent literature concerning the ". . . self-concept and the 'disadvantage' of ethnic group membership and mixture . . . (p. 211)," reported a bewildering lack of consistency, clarity, and completeness of these research findings. He concluded that ". . . it is safe to say at least that ethnic group membership and mixture may either enhance or depress the self-concept of a disadvantaged child (Zirkel, 1971, p. 220)." The importance of ethnic characteristics is further elucidated by Grebler, Moore, & Guzman (1970) who observed that distinctive cultural characteristics of Mexican-Americans have caused dilemmas for school officials in that there is a noticeable tendency to build upon the Mexican culture, e.g., art and music, but that at the same time there are instances where foreign features are suppressed, sometimes rather harshly. Particular instances of suppression of cultural aspects mentioned by Grebler, Moore, & Guzman include dress codes, grooming rules, or even name changes, e.g., "Jesse" rather than "Jesús." To quote Grebler, Moore, & Guzman directly: "In some cities these (dress codes and grooming rules) are directed against particular symbols of peer-group identification, which are often defined as alien to school culture and authority (1970, p. 157)."

Some authors (e.g., Palomares, 1971a) suggest that counselors have not been trained to consider factors such as ethnic background, race, or minority perspective, as valid reasons for decisions and actions; it appears, however, that subtle behaviors such as frequency of eye contact, number of positive remarks, and duration of touch, may communicate value judgments of which the person emitting these signs is not aware (Brophy & Good, 1970; Hosford & Zimmer, 1972; Palomares, 1971a). Differential treatment due to ethnicity can possibly be avoided through objective testing (Rohwer, 1971), but it is well known that objective tests do not always yield objective data (Clements, Duncan, & Taylor, 1969; Leacock, 1968; Kendrick & Thomas, 1970). Leacock, for example, found that when she assigned oral reports to a college class of bright, argumentative students, one girl insisted on writing rather than delivering her paper. Later it became clear that the student was of Indian ancestry; her background made her ". . . feel uncomfortable in competitively structured situations, at least insofar as learning is concerned (pp. 844-845)." Similarly, Klugman (1944) tested a heterogeneous group of children twice, using the revised Stanford-Binet, and offered the second time some of the children money rewards for good scores. Although the second testing resulted in somewhat higher scores generally, there was no significant difference for the scores of white children, but black children who were given money rewards showed definitely better performance than those who only received verbal praise as incentive. Objective testing may thus promote de facto segregation (Kendrick & Thomas, 1970) if a predominant culture is equated with advantage and a subculture with disadvantage (Vontress, 1969).

Research evidence strongly supports the contention that ethnic and racial variables may predispose individuals to behave in different ways. For example, Stump, Jorden, & Friesen (1967), in their investigation of how cross-cultural considerations increase the understanding of vocational development, noticed that people were strongly influenced by the advice of significant others when they selected jobs and occupational levels. Similar outcomes were reported by Danskin (1957), C. N. Edwards (1969), Holland (1959), and Linton (1945). Possible dangers in this trend in decision-making are that inaccurate generalizations may be made, or that comparisons may be based on irrelevant characteristics of the model (Palomares, 1971a). Ways to decrease faulty generalizations could include providing multivaried successful models in readers, films, and other educational media (Leacock, 1968). Likewise, counselors could promote responsible decision-making on the part of their clients who belong to minority groups by providing them with models of similar ethnic background who demonstrate effective and efficient decision-making. In this way, the social mobility of these clients would be increased by having them experience vicariously that a particular vocational or educational choice is not exclusively reserved to some racial or ethnic group.

Some evidence that variables such as race or ethnicity influence occupational preference is reported by Pallone, Rickard, & Hurley (1970) who found that, in order of descending frequency, black males cited as key figures in selecting occupations they aspired to enter: persons holding the preferred occupation, parents, teachers, peers or sisters and brothers, relatives not of the immediate family or counselors, and neighbors. Pallone, Rickard, & Hurley concluded from their research that, whatever the subject's race or sex, the same-sex parents in tandem with appropriate occupational role models are the most potent influencers of occupational preference. When appropriate occupational role models are seldom provided by persons of similar ethnic background, severe restrictions may be imposed on vocational and educational decisions of students. In view of this consideration, Palomares (1971b) emphasized the need for new identity, dignity, and power for the Chicano student. Thus, a distinction has to be made between "culturally different" and "culturally deficient" (Aragon & Ulibarri, 1971). Ignoring and downgrading cultural differences brings about ". . . the emotional crippling of students that haunts guidance counselors and contaminates our environment (Aragon & Ulibarri, 1971, p. 89)." Therefore, the inclusion of ethnic variables in social modeling research is mandatory if counselors and educators are to determine which factors significantly affect and account for differential vocational choice-making (Mason, 1969).

If professional counselors are to assist clients from minority backgrounds in learning how to make effective personal, vocational, and educational decisions, the extent to which ethnic variables affect these decisions must be explored. No experimental data are presently available concerning the effectiveness of similar and dissimilar ethnicity among social models and counselors in promoting student-initiated activities outside the counseling interview, e.g., in teaching crucial educational and vocational decision-making behaviors to Chicano students. For example, would a social model of similar ethnic background be more effective than one from a different ethnic group in promoting imitative information-seeking behavior? In addition, it would be important to know the relative effect on the subsequent behavior of Chicano and Anglo students of providing counselors of similar or different ethnic backgrounds.

Summary of Related Research

From a survey of the literature related to educational and vocational development, it is evident that students belonging to minority groups possess less social mobility than students who are members of the majority culture. It has been pointed out that expectations for and probabilities of educational and vocational mobility are communicated differently to students of different ethnic groups and that these expectations and opportunities for academic and social choices are materialized in rather persistent patterns.

Decision-making theory provides a structure which may enable an individual student to increase his chances of social mobility through the application of appropriate decision-making skills involving objective and subjective data concerning the probabilities of success. Currently, however, there is still insufficient evidence available on procedures for teaching these decision-making behaviors in a counseling situation. Although many counselors attest to the need for responsible decision-making on the part of students, there is a general lack of techniques that will facilitate the implementation of research findings in decision-making theories.

Research based on social learning principles has demonstrated that observing appropriate models can have a profound influence on the subsequent behavior of student-observers. Several investigations concerning counseling techniques based on social learning theory have clearly demonstrated that social modeling procedures are effective means for promoting predictable student-initiated activities outside the counseling interview. However, as Bourdon (1970) noted in a recent review of imitation in counseling and therapy, many issues still demand clarification. It is his view that the preponderance of research in application of imitation theory to the counseling process came from John Krumboltz and his students, and although he evaluated several of these studies as being ". . . of considerable significance . . . (p. 442)," he added:

> It is unfortunate that the greater proportion of the Krumboltz research was generated from the same design and used the same dependent variable (ISB)* and that there was not more effort to use the model-reinforcement counseling technique to institute other behaviors relevant to the school counseling setting. There was little effort to investigate subject variables (aside from sex) by Krumboltz nor was there any attempt to use such techniques as "generalized imitation" (p. 445).

Hence, there is a great need for experimental research that will provide empirical data on the impact of differential variables in counselors, social models, and clients.

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*ISB stands for Information-Seeking Behavior.

In addition, the teaching of the total decision-making process as described by authorities like Clarke, Gelatt, & Levine (1965); Cronbach & Gleser (1965); Edwards (1961); Thoresen & Mehrens (1967); and Varenhorst (1964)--(1) surveying alternative solutions; (2) collecting relevant information about these alternatives; (3) investigating motivational reactions to each goal and outcome; and (4) considering probabilities of success and possible outcomes --is still largely unexplored.

This present investigation was an effort to develop and test experimentally a counseling procedure based on the principles of scientific research which can be used by counselors and educators to improve the educational and vocational decision-making behaviors of students. When individuals learn how to make effective decisions, their degree of freedom in reference to social mobility is increased accordingly. This freedom is particularly important for students of minority groups, e.g., ethnic minorities, living in a culture which stresses social mobility; therefore, it may be concluded that this study has addressed itself to a crucial question in counseling and guidance.

CHAPTER II

EXPERIMENTAL DESIGN AND PROCEDURES

Objectives and Overview of the Study

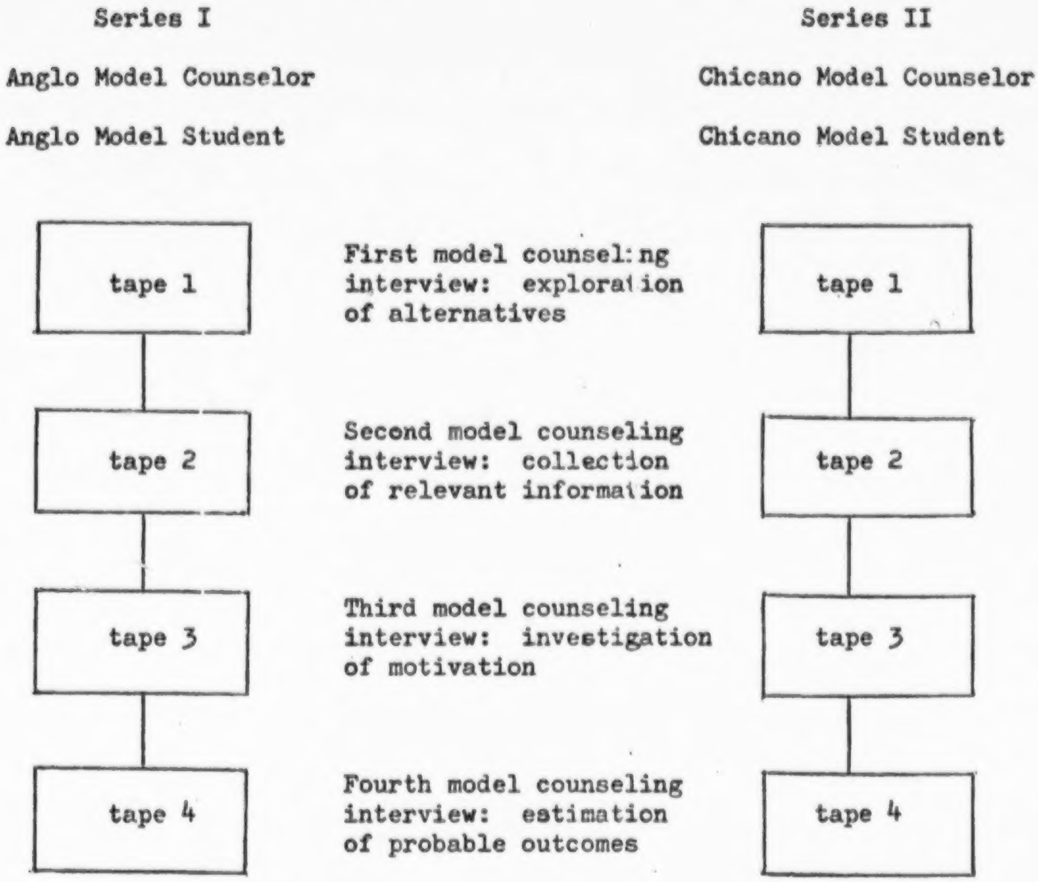
The primary goal of the study was to investigate the relative effects of social models and actual counselors, of similar and/or different ethnic backgrounds, on subject acquisition of four decision-making behaviors and on subsequent performance of one of these behaviors--information-seeking--by students who were also of ethnic backgrounds similar to and/or different from the social models and/or the actual counselors. The specific ethnic characteristics explored in this study were Anglo and Mexican-American or Chicano attributes as defined by physical appearances and personal names, i.e., all Anglo social models, Anglo actual counselors, and Anglo subjects had light complexions and were called by first and/or last names associated with the Anglo culture, while all Chicano social models, Chicano actual counselors, and Chicano subjects had dark complexions and were called by first and/or last names associated with the Mexican-American culture. Thus, the study employed (a) Anglo and Chicano social models, (b) Anglo and Chicano experimental counselors, and (c) Anglo and Chicano subjects, so that a total of eight different treatment combinations was obtained.

The social model procedure consisted of two series of four videotape recordings of successive counseling interviews which demonstrated the specific behaviors that the study sought to promote. The two series of videotaped social models were identical in every aspect except that for one series both the model counselor and the model student were Anglos and had Anglo names, while for the second series both the model counselor and the model student were Chicanos and had Spanish names. The ethnicity of the social models on the videotapes was not mixed in order to increase the possible impact of ethnic characteristics, one of the main variables which the study sought to explore. Each of the four videotape recordings of the model counseling interviews dealt with one of four decision-making behaviors similar to those suggested by Clarke, Gelatt, and Levine (1965), Cronbach & Gleser (1965), Edwards (1961), Thoresen & Mehrens (1967), and Varenhorst (1964), i.e., (1) exploration of alternatives; (2) collection of relevant information; (3) investigation of motivation; and (4) estimation of probable outcomes (see Figure 1).

A second variable of the study was the ethnic backgrounds of the experimental counselors who demonstrated the social model videotape recordings and conducted the

Figure 1

Treatment Procedures*


Series I
Anglo Model Counselor
Anglo Model Student
Series II
Chicano Model Counselor
Chicano Model Student
tape 1
tape 2
tape 3
tape 4
tape 1
tape 2
tape 3
tape 4

First model counseling interview: exploration of alternatives

Second model counseling interview: collection of relevant information

Third model counseling interview: investigation of motivation

Fourth model counseling interview: estimation of probable outcomes counseling sessions with the subjects. Thus, both Anglo and Chicano experimental counselors were used. The experimental counselors presented one or the other of the two social model series to Anglo or Chicano subjects randomly assigned to the particular treatment.

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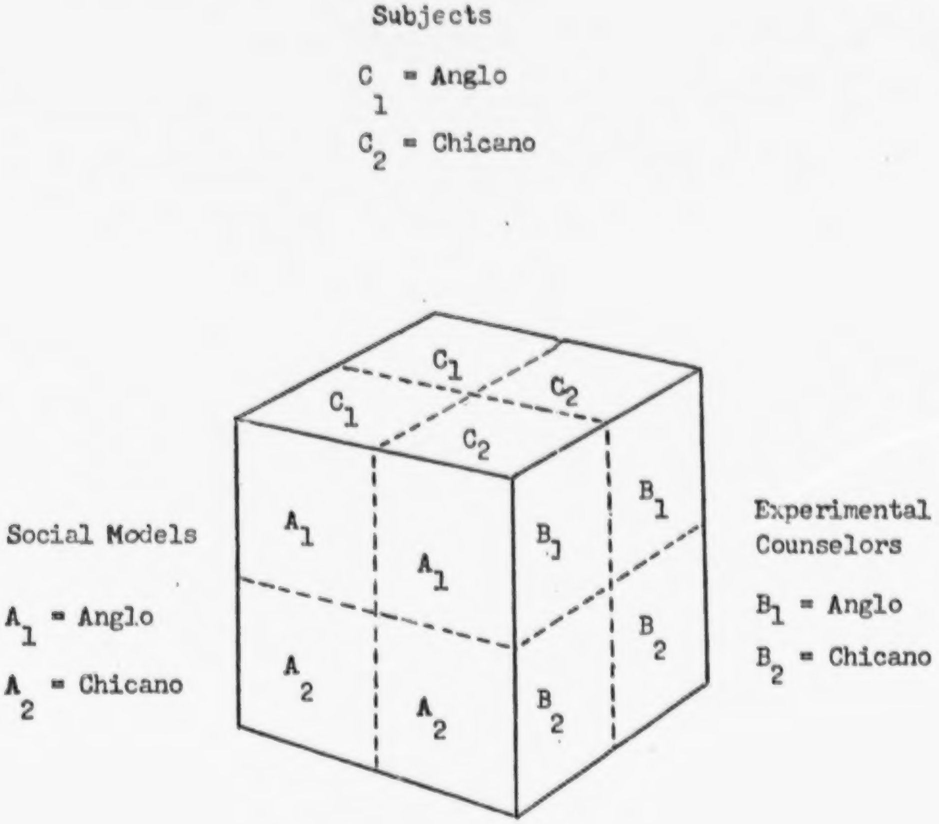
*Representation of the social model procedures, consisting of two series of four videotapes. Except for the ethnic variables, the two series of tapes were identical in regard to the contents of the model counseling interviews.

The third aspect of the study consisted of stratified variables among the subjects, i.e., all eighth grade junior high boys who volunteered for the special counseling provided by this study were placed in either an Anglo or a Chicano pool, according to the ethnicity of the student involved. The Anglo and Chicano subjects were subsequently randomly assigned to either an Anglo or Chicano counselor who employed either the Anglo or Chicano social model procedures. In this way all possible combinations of Anglo and/or Chicano social models, experimental counselors, and subjects were included in the study (see Figure 2).

The effects of the various treatments were measured by two types of criteria. One criterion consisted of the subjects' recall of the decision-making behaviors as demonstrated by the videotaped social models and data related to the ethnic characteristics of the models and of the experimental counselors. The second criterion for measuring the effects of the various treatments was the

Figure 2

Combinations of the Independent Variables*


Subjects
C_1 = Anglo
C_2 = Chicano
C_1
C_2
C_1
C_2
Social Models
A_1 = Anglo
A_2 = Chicano
A_1
A_1
A_2
A_2
Experimental Counselors
B_1 = Anglo
B_2 = Chicano
B_1
B_1
B_2
B_2

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[*] Graphic representation of the three independent variables investigated in the study. A total of eight treatment conditions is obtained when all possible combinations of Social Models, Experimental Counselors, and Subjects subdivided according to their respective ethnicity are employed. The study included two Anglo and two Chicano counselors so that there was a total of sixteen treatment groups.

frequency and variety of information-seeking behaviors in which the subjects engaged relative to their educational and vocational plans outside the counseling setting.

The study used a modification of a "post-test only control group design," recommended by Campbell & Stanley (1963) which has been employed in previous research similar to this study (e.g., Thoresen, Hosford, & Krumboltz, 1970). Randomization procedures (Table A: Random Numbers, Scott & Wertheimer, 1962) were used to assign all subjects from the Anglo and the Chicano subject pools to the various treatment groups or to the control groups.

The order of experimental treatments and the sequence of evaluation interviews in which the criterion behaviors of information-seeking were measured, were randomized to control for serial effect. Recall of the criterion behaviors was not randomized since all subjects filled out the recall questionnaire simultaneously.

Unique Aspects of the Study

The unique aspects of this study relative to research in counseling psychology can be summarized as follows:

(1) The study investigated a functional relationship between specifically designed counseling procedures and operationally defined and observable outcomes. A

rigorous experimental design, highly recommended for educational research (Campbell & Stanley, 1963), was used; the treatments were thoroughly defined so that the study can be readily replicated by independent investigators, and the criterion behaviors of the subjects were carefully defined so that exact measurements of the treatments were available.

(2) The study was conducted in a field-setting, thus enhancing its generalizing potential over populations, i.e., the close similarity between the experimental conditions and common counseling situations facilitates the application of the present findings to everyday educational and counseling conditions (Kempthorne, 1961). The degree of generalization over populations was further strengthened by the random assignment of subjects drawn from an actual eighth grade junior high school population.

(3) The sample population consisted of actual students seeking counseling regarding their educational and vocational planning. This is in accordance with the premise that counseling be provided for those who desire it. When the names of the students who had volunteered for the special counseling were checked against the roster of eighth grade junior high school boys of the participating school, it was found that all students who were eligible

for counseling had selected to participate.

(4) The independent variables, i.e., ethnic characteristics, represent an area of considerable and meaningful social and educational concern. Counseling psychology as a behavioral science should be directly involved with current social issues as well as with the promotion of abstract truth.

(5) The dependent variables promoted in this study were decision-making skills relevant to educational and vocational planning (Clarke, Gelatt, & Levine, 1965; Krumboltz, 1966).

(6) Many studies using decision-making behaviors as dependent variables have limited themselves to only one aspect of decision-making--information-seeking; this study incorporated all four decision-making behaviors similar to those recommended by Cronbach & Gleser (1965), Gelatt (1962), and Varenhorst (1964), i.e., (a) surveying alternatives; (b) collecting information; (c) considering motivation; and (d) exploring consequences.

(7) Many studies investigating social model procedures have not distinguished between the acquisition and the performance of the modeled behavior. As suggested by Bandura (1962, 1965, 1969), this study explored the effect of the ethnic variables on both acquisition and performance

of subject responses.

(8) Evaluation of the several treatment conditions was determined by student-initiated activities outside the counseling interviews and by recall of treatment variables rather than by apparent changes in behavior during the interviews or by self-reports concerning feelings.

(9) Many studies using social models have evaluated the degree of imitative behavior during or immediately after exposure to the models. This study evaluated the criterion behaviors three weeks after the experimental treatments were concluded.

(10) The total experiment, including treatments and evaluation, took place in the actual school-setting familiar to the subjects, and during the regular school year. In this way possible Hawthorne effects were minimized (Bracht & Glass, 1968).

Questions and Hypotheses

From the discussion and rationale presented in Chapter I the following research questions and hypotheses were formulated for testing:

(1) Will the ethnic background of social models affect the degree to which subjects are able to recall specific behaviors and characteristics demonstrated

by these social models?

(2) Will the ethnic background of social models affect the degree to which subjects engage in the frequency and variety of information-seeking behaviors demonstrated by these social models?

The research hypothesis created to answer these questions is as follows:

> Subjects exposed to social models having ethnic characteristics similar to their own will recall a greater number of the modeled decision-making behaviors and ethnic characteristics and will engage in a greater number and variety of the modeled information-seeking activities than will subjects exposed to social models having ethnic characteristics dissimilar to their own.

(3) Will the ethnic background of counselors affect the degree to which subjects recall specific behaviors and characteristics demonstrated by social models of similar or different ethnic characteristics?

(4) Will the ethnic background of counselors affect the degree to which subjects engage in the frequency and variety of information-seeking behaviors demonstrated by social models of similar or different ethnic characteristics?

The research hypothesis formulated to answer these questions is as follows:

> Subjects counseled by counselors having ethnic characteristics similar to their own will recall

> a greater number of the modeled decision-making behaviors and ethnic characteristics and will engage in a greater number and variety of the modeled information-seeking activities than will similar subjects counseled by counselors having ethnic characteristics dissimilar to their own who employ the identical social model procedures.

(5) Will the ethnic background of social models combined with the ethnic background of counselors affect the degree to which subjects recall specific behaviors and characteristics demonstrated by these social models and presented by these counselors?

(6) Will the ethnic background of social models combined with the ethnic background of counselors affect the degree to which subjects engage in the frequency and variety of information-seeking behaviors demonstrated by these social models and presented by these counselors?

The following interaction hypothesis was tested to answer these questions:

> A significant interaction will occur between the ethnic characteristics of social models, the ethnic characteristics of counselors, and the ethnic characteristics of subjects. Subjects will recall and perform significantly more modeled behaviors when exposed to social models and/or counselors having the same ethnic backgrounds as themselves than will subjects exposed to social models and/or counselors of different ethnic backgrounds.

(7) Will a specific type of ethnic model, e.g., Anglo, be more effective in promoting imitative behaviors

among subjects regardless of their ethnic backgrounds than will another type of ethnic model, e.g., Chicano?

(8) Will a specific ethnic type of counselor, e.g., Chicano, be more effective in promoting the criterion behaviors among subjects, regardless of their ethnic backgrounds, than will another ethnic type of counselor, e.g., Anglo?

(9) Will a specific ethnic type of subject, e.g., Anglo, emit more imitative behaviors than another ethnic type of subject, e.g., Chicano, regardless of the ethnicity of the social models and/or the ethnicity of the counselors to which these subjects are exposed?

In order to compare the relative effects of the treatments administered in this study with inactive control groups in respect to information-seeking behaviors, the following hypothesis was tested:

> Subjects exposed to social modeling treatment procedures will engage in a greater number and variety of information-seeking activities than will similar subjects in an inactive control group.

Field-Setting of the Study

The study was conducted at Fillmore Junior High School in Fillmore, California, a rural community of 6,857--55% Anglo and 45% Mexican-American, almost all of whom are first or second generation Americans--in the Southern California county of Ventura. The major sources of employment in Fillmore are the oil and citrus industries; most of the employees in the oil industry are Anglo, while Anglo and Chicano employees are about equally represented in the citrus culture. The total number of migrant workers is low since both citrus and oil industries provide year-round employment. Most of the inhabitants of Fillmore belong to the socioeconomic middle-class.

Fillmore has its own school district, consisting of one senior high school, one junior high school, and three elementary schools. In the total school district 56% are Anglos and 44% are Chicanos. The junior high school has a student body of 442, while the total number of students in the eighth grade is 220. About 55% of the junior high school population are Anglo and 45% Mexican-American. The junior high school has one full time counselor.

Subjects

Since several studies suggest that differences occurring in imitative behavior may, in part, be due to differences between subject and model sex (Bandura, Ross, & Ross, 1961, 1963b; Rosenblith, 1959, 1961), or to differences between subject and counselor sex (Thoresen, Krumboltz, & Varenhorst, 1967), or to the interaction between sex of subject, sex of social model, and sex of counselor (Thoresen, Krumboltz, & Varenhorst, 1965), only male subjects, male models, and male counselors were used in this investigation. Prior to the inception of the study, all eighth grade males enrolled in the participating junior high school at Fillmore, California, were given a standardized invitation (vid. Appendix A) to see a special counselor from the University of California, Santa Barbara, regarding their high school plans and/or future educational and vocational planning.

In addition to requesting the students to indicate whether or not they desired the special counseling, the invitations included questions (Appendix A) concerning: (1) the current plans the student might have with respect to his high school schedule, (2) the present intentions the student might have with respect to educational and vocational planning after high school, and (3) the ways in which the choices under (1) and (2) were established. The main purpose of these questions was to obtain data indicating whether (a) the subjects had definite educational and vocational plans for their immediate (high school) and distant (post-high school) future, and (b) if definite plans had been made, what person was primarily responsible for these choices and what sources, if any, were consulted. Table 1 presents the overview of these conditions before the study was started; only the responses of the experimental and control subjects were included in this table since only these students were actually used in the study.

Since the social model procedures and the counseling interviews were conducted in English, students who spoke only or mainly Spanish had to be eliminated from the study. The selection process was based on the evaluations of the students' language abilities given by the staff of the junior high school. All remaining students were divided into two pools, one Anglo and one Chicano; this division into ethnic groups was based on the student's surname and was verified by local school personnel. One student with an apparently German name was included in the Chicano pool upon learning that he was Mexican-American but that he had adopted the surname of his stepfather. Subsequently, subjects from both pools were randomly assigned to experimental and control groups, using the procedure outlined in Figure 3.

Experimental and Control Groups

A total of sixteen experimental and two no-treatment

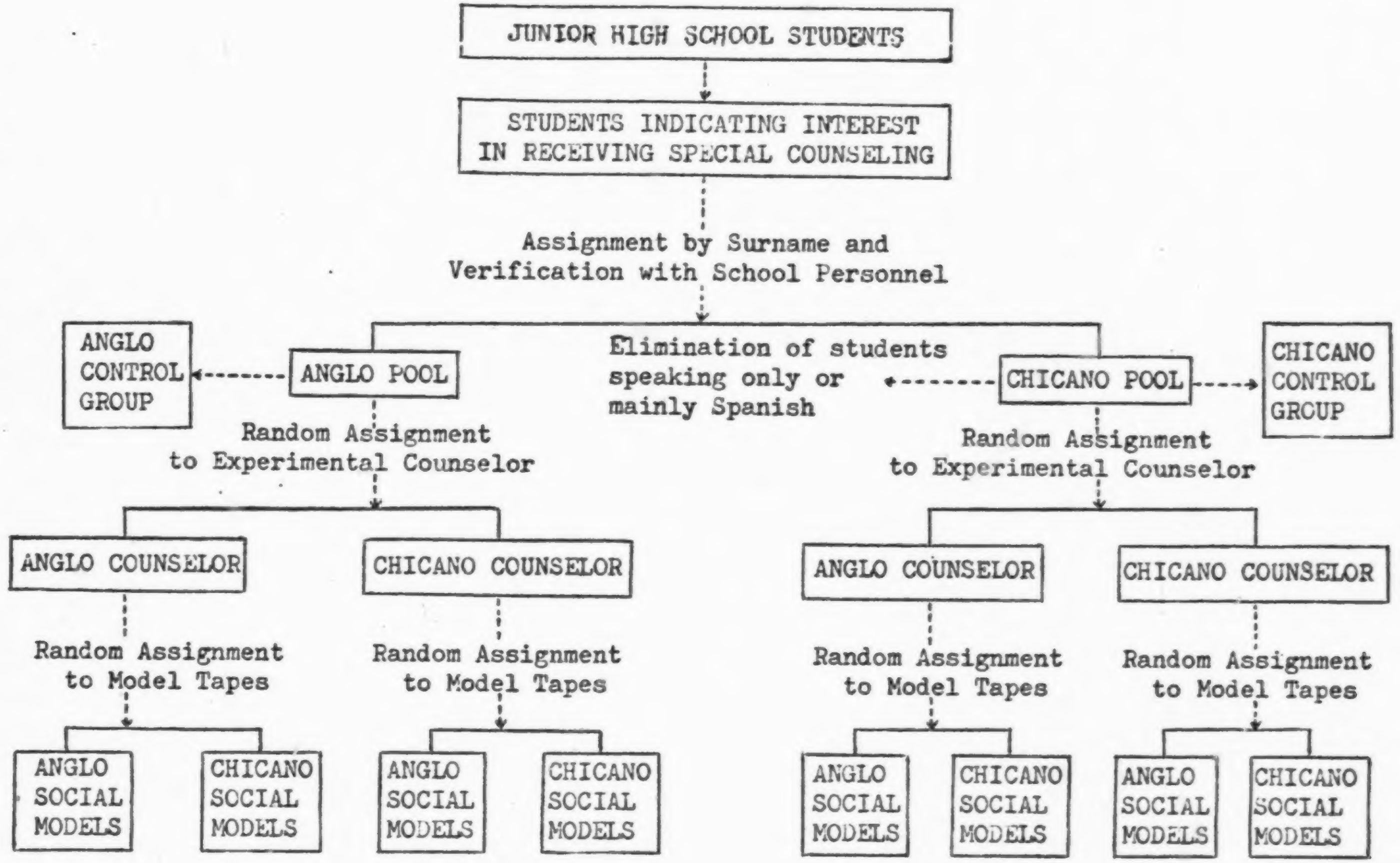
TABLE 1

Subjects' Responses to Questions Asked before Treatment

Questions asked on the invitation form	ANGLO		CHICANO	
	Don't know	Known	Don't know	Known
1. What jobs are you interested in for later on in life?	15	23	29	9
a. General field		12		4
b. Specific career		11		5
2. What school or schools do you plan to attend after high school?	15	23	22	16
a. Four-year college		13		1
b. Junior college		9		12
c. Technical school		1		0
d. No further education		0		3
3. What subjects do you want to take in high school?	18	20	20	18
a. College preparatory		6		5
b. Agriculture, drafting		7		2
c. Shop		6		10
d. General requirements (e.g., driver's training)		1		1
4. How did you decide on the choices you indicated in the first three questions?	20	18	36	2
a. Personal preference		11		2
b. Personal experience		1		0
c. Parent		4		0
d. Brother		1		0
e. Other relative		1		0
f. Friend		2		0
g. Person engaged in career		1		0
h. Teacher		1		0
i. Counselor		0		0
Interrelationship between:				
a. Questions 1 and 2		11		3
b. Questions 2 and 3		6		1
c. Questions 1 and 3		12		3
d. Questions 1, 2, and 3		6		1

Figure 3

Procedures Employed in Selecting and Assigning Subjects to Treatments


JUNIOR HIGH SCHOOL STUDENTS
STUDENTS INDICATING INTEREST IN RECEIVING SPECIAL COUNSELING
Assignment by Surname and Verification with School Personnel
ANGLO CONTROL GROUP
ANGLO POOL
Elimination of students speaking only or mainly Spanish
CHICANO POOL
CHICANO CONTROL GROUP
Random Assignment to Experimental Counselor
Random Assignment to Experimental Counselor
ANGLO COUNSELOR
CHICANO COUNSELOR
ANGLO COUNSELOR
CHICANO COUNSELOR
Random Assignment to Model Tapes
Random Assignment to Model Tapes
Random Assignment to Model Tapes
Random Assignment to Model Tapes
ANGLO SOCIAL MODELS
CHICANO SOCIAL MODELS
ANGLO SOCIAL MODELS
CHICANO SOCIAL MODELS
ANGLO SOCIAL MODELS
CHICANO SOCIAL MODELS
ANGLO SOCIAL MODELS
CHICANO SOCIAL MODELS

control groups were used. In each treatment condition there were a total of four subjects for a total N of 64. Each of the sixteen treatment conditions differed from any of the remaining ones in at least one of the following aspects: (1) ethnic background of the social models; (2) ethnic background of the experimental counselors; (3) experimental counselor within the same ethnic group; (4) ethnic background of the subjects. For example, in one of the cells an Anglo experimental counselor demonstrated videotaped Chicano social models to Anglo students; in another cell a Chicano experimental counselor showed Anglo social models to Chicano subjects. Each of the two control groups, one Anglo and one Chicano, consisted of six students for a total N of 12. The control groups had to be limited to six students each since this exhausted the number of available Chicano students. A reserve group, consisting of those students who had indicated a desire for special counseling but who were not included in either the treatment or the control groups, was formed to be used as a source of subjects in the event that initially selected subjects became unavailable for counseling. The total number of subjects included in the study was 64 in treatment groups and 12 in control groups, for a total N of 76. Figure 4 presents the types of treatment

Figure 4

Representation of the Treatment Groups and the Number of Subjects in each Condition

		VIDEOTAPED SOCIAL MODELS			
		Anglo A_1		Chicano A_2	
		SUBJECTS		SUBJECTS	
		Anglo C_1	Chicano C_2	Anglo C_1	Chicano C_2
EXPERIMENTAL COUNSELORS	Anglo Counselor #1 B_{11}	Group 1 $A_1B_{11}C_1$ 4 Ss	Group 3 $A_1B_{11}C_2$ 4 Ss	Group 9 $A_2B_{11}C_1$ 4 Ss	Group 11 $A_2B_{11}C_2$ 4 Ss
	Anglo Counselor #2 B_{12}	Group 2 $A_1B_{12}C_1$ 4 Ss	Group 4 $A_1B_{12}C_2$ 4 Ss	Group 10 $A_2B_{12}C_1$ 4 Ss	Group 12 $A_2B_{12}C_2$ 4 Ss
	Chicano Counselor #1 B_{21}	Group 5 $A_1B_{21}C_1$ 4 Ss	Group 7 $A_1B_{21}C_2$ 4 Ss	Group 13 $A_2B_{21}C_1$ 4 Ss	Group 15 $A_2B_{21}C_2$ 4 Ss
	Chicano Counselor #2 B_{22}	Group 6 $A_1B_{22}C_1$ 4 Ss	Group 8 $A_1B_{22}C_2$ 4 Ss	Group 14 $A_2B_{22}C_1$ 4 Ss	Group 16 $A_2B_{22}C_2$ 4 Ss

combinations and the number of subjects employed in each cell.

Social Models

Both of the model counselors, one Anglo and one Chicano, who participated in the videotaped model interviews, had practical experience in counseling and were enrolled in the graduate Counseling Psychology Program of the University of California, Santa Barbara. Before the initiation of the study, the two counselors were provided with readings regarding the use of social learning principles in counseling. In addition, a special training manual (Hosford & de Visser, 1971) was utilized to provide instruction in the theory and practice of behavioral counseling. This manual discussed in detail several procedures commonly used in behavioral approaches to counseling and included exercises and evaluation standards concerning these techniques. Both social model counselors completed the training manual before the model interviews were videotaped.

The model counselors were both males and both were young (26 and 36, respectively). Both were of approximately the same height and weight and were matched on those physical aspects which would be obvious on the videotapes, e.g., each had a moustache and each was wearing a coat and a tie during the model interviews.

The two social model students were recruited from eighth grade students of a local junior high school otherwise not associated with the study. Both model students had previous experience with videotaping so that they were familiar with the process, thus providing for a relaxed attitude during the taping of the model treatment interviews. The two students were recommended by the staff of their junior high school as bright, cooperative, and well-adjusted students. Both were males and were matched in regard to height, weight, and clothing.

The one significant difference between the two model counselors and between the two model students was their ethnic appearance. One counselor was Anglo, had a fair complexion and red hair, and was addressed as Mr. George. The other counselor was Mexican-American, had a dark complexion and black hair, and was called Mr. Escobedo. Similarly, one model student was Anglo and had a fair complexion and blond hair; his name during the model interviews was Bert. The other social model student was Chicano and had a dark complexion and black hair; he was named José for purposes of the model interviews.

Social Model Treatment

Two series of four videotape recordings each were prepared to constitute the model counseling interviews used in the study (see Figure 1). One series of tapes demonstrated four successive counseling interviews between the Anglo model counselor and the Anglo model student described above; the other series of tapes depicted the four consecutive counseling interviews between the Chicano model counselor and the Chicano model student. The two series of videotaped counseling sessions were substantially the same. Each model interview was approximately ten minutes in length, dealt with a specific topic, and the series culminated in a final curriculum decision by each of the two model students. All social models were provided with identical scripts for the series of model interviews (see Appendix B). The model tapes were prepared in a manner similar to those of the earlier studies of Krumboltz & Schroeder (1965), Krumboltz & Thoresen (1964), and Thoresen, Hosford, & Krumboltz (1970). However, whereas these earlier studies investigated only the information-seeking aspect of the decision-making process and were limited to an in-office interview of the social models, this study demonstrated four decision-making behaviors and showed the model student actually engaged in the process of collecting relevant information.

The first videotape in each series presented an initial counseling interview in which the student requested the counselor to assist him in the selection of courses for his high school schedule. In the course of this interview, the model counselor investigated with the model student several alternatives open to the student. These included both high school subjects and career possibilities after high school. During the investigation of possible alternatives, the model counselor suggested that the counselee collect relevant educational and career material which would supply him with additional information regarding alternative solutions to high school and career possibilities.

The second videotape portrayed the same model student in the process of collecting information from a variety of sources. He visited respectively: a construction site, a public library, a senior high school counselor, and a teacher at the senior high school. The decision-making step discussed in the third videotape was the client's motivation for selecting a particular course of action, i.e., when considering several significant aspects of two or more mutually exclusive alternative possibilities, which ones appear most important to him.

The fourth social model treatment consisted of a recording which demonstrated the model counselor and the model student exploring together the possible outcomes of the various alternatives that had been proposed in the previous sessions. The setting was again identical to that of tapes one and three, i.e., the counseling office. Model counselor and model student discussed the consequences to which each proposed high school course could lead, both in terms of success at the high school level and in terms of careers in which the model student might be interested. This last model interview was concluded by the model student's decision to attempt a certain specified high school schedule. The model counselor then summarized the four decision-making procedures which had been demonstrated in the videotapes and verbally reinforced the observers to implement them in their own situations.

Experimental Counselors

The two Anglo and the two Chicano experimental counselors who took part in the study were all males. All four counselors were graduate students in the Counseling Psychology Program of the University of California, Santa Barbara, during the 1971-1972 academic year. These experimental counselors administered the treatments at the same time, using separate rooms of the junior high school which participated in the study. The counselors used identical copies of the social model tapes, and the equipment required to show the video recordings was substantially the same for all four counselors.

For statistical purposes these four counselors were considered a random sample of counselors drawn from a hypothetical population of counselors. Although there is reason to believe that these counselors are comparable to counselors in general, the results can only be strictly generalized to populations of counselors essentially similar to counseling interns at the University of California, Santa Barbara.

Table 2 provides information relative to the background of the experimental counselors employed in the study.

Training of the Experimental Counselors

The four experimental counselors were enrolled in a practicum course in Counseling Psychology (Education 268) at the University of California, Santa Barbara, and all four participated in a course specifically designed to train counselors in the procedures and techniques of

Table 2

Background of the Experimental Counselors

		ANGLO I	ANGLO II	CHICANO I	CHICANO II
1.	Sex	male	male	male	male
2.	Years graduate school	2	2	1	1
3.	Teaching experience; full time (elementary or secondary)	0	0	0	0
4.	Teaching experience; part time (T. A., graduate school)	1 quarter	1 quarter	0	1 quarter
5.	Counseling experience (Probation officer, E. O. P. Program)	1 quarter	1 year	2 years	1 year
6.	Counseling fieldwork	5 quarters	5 quarters	4 quarters	3 quarters
7.	Research experience (assistance in other projects)	1 year	1 quarter	1 quarter	2 years
8.	Undergraduate major	psychology	anthropology	history	history
9.	Courses in behavior modification	1	1	1	1
10.	Academic training for this study	yes	yes	yes	yes
11.	Role-play practice for this study	yes	yes	yes	yes
12.	Practice with videotape equipment	yes	yes	yes	yes

the study.

(6) Tape recordings were made of practice counseling sessions to provide a comprehensive feedback for the instructor and intern in evaluating the intern's counseling techniques.

(7) Prior to beginning the study, the interns were given practice in using the model videotapes that were later used in the study. Alternation of the counselor and counselee roles provided feedback on the manner in which the counseling was administered and received.

Experimental Treatments

The experimental treatments consisted of a series of three counseling interviews during which the experimental counselors showed to the subjects the social model videotape recordings described above. Each experimental interview was about 30 minutes long and consisted of an introduction of the appropriate social model tape, a demonstration of the videotape recording, and a discussion of the modeled behavior and of possible activities of the subject relative to that behavior. A transcript of the three experimental interviews is found in Appendix C.

During the first experimental counseling session the first and second model interviews were shown; the third model tape was demonstrated during the second session, and the fourth model tape recording during the third and last experimental counseling interview. This sequence was selected in order to provide the subjects immediately with a model demonstrating behavior outside the counseling setting, i.e., the second tape portrayed the social model student in the process of collecting information relative to the alternatives this student had discussed during the first videotape recording, thus stimulating the experimental subjects to act in a similar manner. This procedure had the additional advantage of providing material relevant to the subject's own situation for the second and third experimental sessions.

The interaction between the model counselor and model student supplied the subjects with information relative to the social model's ethnic background. The ethnicity of model counselor and/or model student was at no point explicitly mentioned in either videotape script or experimental interview, but ethnicity was clearly evident in the names by which the social models were addressed and by their physical appearances. Similarly, at no time did the experimental counselors mention their own or their subject's ethnic background, but the nature of the experimental counseling interviews supplied this information.

The experimental treatments were randomly arranged for each of the experimental interviews to control for serial effect. Thus, no one combination of model, experimental counselor, and subject ethnicity was always the first or last interview for any given day or for the total study. On the other hand, any given combination of social models, experimental counselor, and subject was maintained over all three experimental interviews, i.e., each subject saw the same experimental counselor and the same social models for all three of his interviews.

In each of the treatment sessions, after the social model videcrecordings had been shown, the experimental counselor asked for feedback on the modeled behavior and answered any questions the subject had relative to the interview. The experimental counselor verbally reinforced the respective modeled behaviors, i.e., exploration of alternatives, collection of information, investigation of motivation, and consideration of possible outcomes and probabilities of success; he then suggested that the subject begin acting on some of the suggestions. The first two experimental interviews were terminated with a reminder about the following interview which was to take place a week later, while the last interview was concluded with an expression of interest in the subject's upcoming actual high school scheduling and an offer for eventual further help.

Each counselor was scheduled for two full days for each of the three experimental interviews so that there were a total of six days of treatment divided over a three-week period. The two days in which a given type of model behavior was demonstrated were always scheduled back to back in order to maintain the same situation and inter-treatment interval for all subjects. For each of the six days of treatment, two sessions per counselor were randomly selected to be audiotaped. These audiotapes were afterwards rated by independent raters (doctoral students in Counseling Psychology) in order to evaluate whether all interviews were conducted in substantially the same manner. The rating scale used for evaluating each of the audiotaped experimental interviews is attached as Appendix D.

Tables 3, 4, and 5 report the results of the rating of the three experimental interviews. These interviews required the counselors to perform specified different behaviors and the raters checked whether these behaviors were actually performed (see Appendix D). Each of the tables in this section is composed of three parts: the evaluation of the interviews by each of the two raters, and the differential between the raters. The inter-rater

Table 3

Evaluation of Experimental Interview I by Two Independent Raters*

Total Number of Counselor Behaviors Judged
Present Out of 25 Possible

RATER I

Counselor	Experimental Interview I**			
	1	2	3	4
Anglo I	23	25	25	23
Anglo II	23	23	24	23
Chicano I	25	24	25	25
Chicano II	23	23	23	21

RATER II

Counselor	Experimental Interview I**			
	1	2	3	4
Anglo I	23	25	25	23
Anglo II	23	23	25	23
Chicano I	25	24	25	25
Chicano II	23	23	22	22

DIFFERENTIAL RATER I--RATER II

Counselor	Experimental Interview I**			
	1	2	3	4
Anglo I	0	0	0	0
Anglo II	0	0	1	0
Chicano I	0	0	0	0
Chicano II	0	0	1	1

---

*The reliability among the two raters was .92.

**Four out of the 16 experimental interviews by each counselor were randomly selected to be audiotaped and rated. The rating scale comprised 25 different behaviors which the counselor was to perform (Appendix D).

Table 4

Evaluation of Experimental Interview II by Two Independent Raters*

Total Number of Counselor Behaviors Judged Present Out of 20 Possible

RATER I

Counselor	Experimental Interview II** 1	2	3	4
Anglo I	20	19	20	20
Anglo II	20	18	18	20
Chicano I	20	18	--***	--***
Chicano II	19	19	20	20

RATER II

Counselor	Experimental Interview II** 1	2	3	4
Anglo I	20	20	20	20
Anglo II	20	18	18	20
Chicano I	20	19	--***	--***
Chicano II	20	20	20	20

DIFFERENTIAL RATER I--RATER II

Counselor	Experimental Interview II** 1	2	3	4
Anglo I	0	1	0	0
Anglo II	0	0	0	0
Chicano I	0	1	-***	-***
Chicano II	1	1	0	0

---

*The reliability between the two raters was .84.

**Four out of 16 experimental interviews by each counselor were randomly selected to be audiotaped and rated. The rating scale comprised 20 different behaviors the counselor was to perform (Appendix D).

***Two interviews were missing at the time of rating.

Table 5

Evaluation of Experimental Interview III by Two Independent Raters*

Total Number of Counselor Behaviors Judged Present Out of 20 Possible

RATER I

Counselor	Experimental Interview III**			
	1	2	3	4
Anglo I	20	19	20	20
Anglo II	15	15	17	15
Chicano I	18	17	18	18
Chicano II	20	20	18	20

RATER II

Counselor	Experimental Interview III**			
	1	2	3	4
Anglo I	20	20	20	20
Anglo II	15	15	17	15
Chicano I	18	18	18	18
Chicano II	20	20	20	20

DIFFERENTIAL RATER I--RATER II

Counselor	Experimental Interview III**			
	1	2	3	4
Anglo I	0	1	0	0
Anglo II	0	0	0	0
Chicano I	0	1	0	0
Chicano II	0	0	2	0

---

*The reliability between the two raters was .96.

**Four out of the 16 experimental interviews by each counselor were randomly selected to be audiotaped and rated. The rating scale comprised 20 different behaviors which the counselor was to perform (Appendix D).

reliability is indicated at the bottom of each Table.

The first experimental interview prescribed 25 counselor behaviors; as Table 3 indicates, in most cases 23 or more of these behaviors were performed in each of the audiotaped interviews. The lowest score was 21 out of 25, which occurred only once. The counselor behaviors which were most often reported as being absent were items 23 and 24 on the scale (Appendix D), i.e., #23. Client is invited to summarize his plans for the coming week, and #24. Client is reinforced for mentioning his plans. Both raters reported that a summary of the plans for the coming week did occur, but that the counselor himself gave the summary rather than asking the student to do so.

The second experimental interview outlined 20 behaviors which each counselor was to perform. Data in Table 4 demonstrate that in no case were more than two of these behaviors absent during any of the interviews; the differential between the counselor behaviors checked as present or absent by the two raters was never more than one per interview. A score of 18 for the second interview by Anglo Counselor II indicated that this counselor himself summarized the client's plans for the coming week, hence not inviting and reinforcing the client for doing this. Although 16 interviews were taped, at the time of rating it was found that two interviews were not recorded; therefore these interviews were omitted from the rating.

The reliability between the two raters was .92 for the first experimental interview, and .84 for the second one. Since all prescribed counselor behaviors were usually performed, the range of variability was narrow and, consequently, the reliability scores were extremely sensitive to any deviation between the two raters.

The third experimental interview required the counselors to perform 20 detailed behaviors; an outline of the rating scale for this third interview is available in Appendix D. After each counselor had introduced and demonstrated the fourth model tape which dealt with the probability of success of each alternative considered by the social model student, the counselor reviewed with the subject the four steps of the decision-making process as demonstrated by the social models. During this review, the experimental counselor was to relate the various steps to the decision-making behaviors actually performed by the subject between the first and third experimental interviews. One of the counselors, i.e., Anglo Counselor II, related the four decision-making behaviors to possible future plans of the subject rather than to past performances. Although the basic contents of the final review were not changed, this counselor omitted at this stage the exploration of activities actually carried out by the student; hence, the five counselor behaviors specifying review of student behaviors were usually scored absent for this counselor (items #13, 14, 15, 16, and 17, Experimental Interview III, Appendix D). Chicano Counselor I omitted to recall the fourth social model tape and, consequently, the reinforcement for recall. Although the content of this tape was discussed during the remainder of the interviews, the counselor behaviors of recall and reinforcement were scored as absent (items #10 and 11, Experimental Interview III, Appendix D.) The inter-rater reliability for the third experimental interview was .96, indicating high agreement among the raters. Inspection of the differential between the two raters (Table 5, part 3) shows that the greatest difference between the raters was 2, which occurred only once.

Control Procedures

The 12 subjects randomly assigned to the two control groups received no special counseling. They did, however, participate in their school's regular counseling program, as did the experimental subjects. The only special contact made with the control subjects after the invitation for special counseling was for the evaluation of information-seeking behaviors three weeks after the completion of the experimental counseling sessions. The control subjects did not participate in the recall questionnaire since they had neither observed the modeled behavior nor interacted with the experimental counselors.

Evaluation

The study used two types of measurements to evaluate the treatments administered: one evaluation procedure consisted of a written recall questionnaire, the other of personal interviews assessing the output of information-seeking behaviors by the subjects. In this way measurements of both acquisition and performance of the modeled behaviors were obtained to evaluate the effects of the ethnic variables. While it was impossible to establish a frequency count of student behaviors relative to exploration of alternatives, investigation of motivation and/or evaluation of probabilities of success, the learning of these decision-making steps was deemed important. Therefore, a questionnaire was designed to measure recall of all four modeled decision-making behaviors; the questionnaire was also designed to investigate the accurate recall of the ethnicity of the social models and the experimental counselor to which each subject was exposed.

Three weeks after the final experimental interview, all experimental subjects were simultaneously administered a paper-and-pencil questionnaire asking the subjects to indicate the major content of each of the four videotape recordings they had seen, and to indicate also the ethnicity of model counselor, model student, and experimental counselor; a sample of the recall questionnaire is attached as Appendix E. The control subjects were not administered this recall questionnaire since they had not received any experimental treatment. For each subject the total score derived from the recall questionnaire was composed of two parts, i.e., the number of correctly recalled steps of the decision-making process as demonstrated by the social models, and the number of correctly recalled ethnic classifications of model counselor, model student, and experimental counselor. When counting the frequency of accurately recalled decision-making steps, the sequence in which the subjects gave the steps was disregarded.

During the week immediately following the administration of the recall questionnaire, each student participating in the study was interviewed by a member of a team of paid investigators to assess frequency and variety of information-seeking behaviors. The control group interviews were randomly intermixed with those of the experimental subjects. The interviewer was unaware which form of treatment, if any, the subject had received. Ten per cent of the evaluation interviews were randomly selected to be audiotaped and were subsequently rated by independent raters to assess the reliability of the evaluation interviews. No discrepancies were found between the written reports of the evaluation interviews (Appendix F) and the audiotape recordings of these interviews.

The evaluation interviews followed a detailed outline (vid. Appendix F) designed to elicit the subject's self-report of information-seeking behavior. Also included were questions to which all students could give affirmative responses. The interview provided data concerning the subject's information-seeking activities relative to:

(1) Obtaining relevant printed information from:

- (a) Guidance department
- (b) School library
- (c) Public library
- (d) Other sources by personal contact
- (e) Other sources via mail

(2) Information-seeking contact with people directly connected with high school and/or career interests:

- (a) Junior high school personnel
- (b) Senior high school personnel
- (c) Relatives
- (d) Persons engaged in similar careers
- (e) Other

(3) Information-seeking contact with people indirectly connected with high school and/or career interests:

(a) Junior high school personnel
(b) Senior high school personnel
(c) Relatives
(d) Persons engaged in similar careers
(e) Other

(4) Making trips to or plans to visit the scene of a relevant high school subject and/or career:

(a) Appropriate junior high school class
(b) Appropriate senior high school class
(c) Place of employment of relatives
(d) Place of employment of persons engaged in careers similar to the one in which the subject is interested
(e) Other

(5) Reporting that a decision was made at least partially on the basis of information gained.

For each subject two scores were derived from the interview protocol: the frequency and the variety of information-seeking behaviors. The frequency was obtained by adding the total number of information-seeking behaviors in which a given subject engaged, e.g., talking to four different persons regarding a vocation provided a frequency of four. The variety of information-seeking behaviors was determined by counting the number of different types of information-seeking activities, e.g., talking to the same person four times about a career and visiting three similar worksites constituted only two different kinds of information-seeking behavior.

Confirmation-Invalidation Procedures

After the evaluation interviews were completed, a random sample of twenty-five per cent of the subjects was chosen for objective confirmation of the students' self-reports. Research evidence is available, however, which indicates that students in similar situations did not falsify their self-reports of activities carried out outside the counseling interview (D. R. Atkinson, 1971; Krumboltz & Schroeder, 1965; Krumboltz & Thoresen, 1964; Thoresen, Hosford, & Krumboltz, 1970).

The follow-up procedures were carried out by a member of the evaluation team. The procedures consisted of activities such as interviewing parents, counselors, or other persons with whom the subject reported talking; visiting libraries to see if books the subject reported to have checked out, were indeed listed on his name, and checking the validity of other activities relative to information-seeking which the subject reported to have carried out. The purpose was to determine whether the reported behavior had been carried out during either the two-week experimental period or the three-week post-experimental period.

Table 6 provides the results of these confirmation

Table 6

Number of Information-seeking Activities Investigated

	Category	Con-firmed	Invali-dated	Uncon-firmable	Total
1.	Books consulted on occupations	2	0	5	7
2.	Books consulted on education	1	0	1	2
3.	Pamphlets consulted on occupations	8	0	3	11
4.	Pamphlets consulted on education	2	0	0	2
5.	Magazines consulted on occupations	9	0	2	11
6.	Posters consulted on occupations	4	0	0	4
7.	T. V. commercials watched on occupations	3	0	1	4
8.	T. V. commercials watched on education	2	0	0	2
9.	Parents consulted on occupations	4	0	2	6
10.	Parents consulted on education	6	0	3	9
11.	School personnel consulted on occupations	2	0	0	2
12.	School personnel consulted on education	6	0	1	7
13.	Consultation of persons engaged in occupation	4	0	4	8
14.	Consultation of persons engaged in education	3	0	3	6
15.	Visit to site of occupation	17	0	13	30
16.	Visit to classes of high school	7	0	0	7
	Total	80	0	38	118

procedures. Although absolute confirmation of all reported information-seeking behavior was not obtained by this follow-up investigation, 80 subject responses were confirmed and none was invalidated. It was found that 38 subject responses were unconfirmable. In most cases a response was termed unconfirmable when the parent, counselor, or other reported source was not certain that the reported conversation took place on the date stated and/or on the particular topic reported by the subject. Examples of specific responses found unconfirmable were:

(1) Three students reported having read books but could not recall the titles; the librarian acknowledged having seen these students, but she was unable to locate books of which the titles were not known.

(2) Two students reported having read magazines at home; the parents confirmed the subscriptions but could not state whether their sons had read the magazines.

(3) One student reported talking to a sheriff but did not know the officer's name.

(4) Three students had visited construction sites and one student had watched exercises of the Fire Department but none of them had talked to persons engaged in these activities. It was confirmed that the construction and the exercises took place on the sites indicated by the students.

(5) One student reported watching a television commercial but the commercial could not be located.

CHAPTER III

RESULTS

This chapter presents an analysis of the results summarized under each research question and hypothesis formulated for the study. The technique of planned comparisons (Hays, 1963) was used to test all three main effects (ethnic background of the social models, of the experimental counselors, and of the subjects); all first and second order interactions; and the differences within Anglo and Chicano experimental counselors. The technique of planned comparisons was selected over the ordinary analysis of variance in order to provide answers to the particular questions raised in this study. Hays states: "The linear combination applied to the set of sample means gives an estimate of the same combinations applied to the corresponding set of population means (1963, p. 238)." Thus, whereas an over-all analysis of variance and F test would have indicated only the systematic effects existing between the three independent variables, the technique of planned comparisons provided the additional information of effects existing within the Anglo and Chicano experimental counselors separately.

Since all assignments to the sixteen treatment combinations were made randomly, a normal population distribution could be assumed and the distribution of any linear combination of sample means would be normal. The technique of planned comparisons was applicable since all treatment combinations represented fixed-level, non-sampled factors. The sixteen treatment combinations allowed for fifteen comparisons which were those for testing the three independent variables, the three first order interactions and the second order interaction of these independent variables, the effects within Anglo and within Chicano experimental counselors, and the main effects related to social models and subjects within Anglo and Chicano experimental counselors. Figure 5 demonstrates that the weighted sum of products of each comparison is zero, so that the comparisons can be regarded as orthogonal. This statistical independence guaranteed that the information provided by each comparison was both nonredundant and unrelated to the information provided by any other comparison.

The analysis employed constituted a mixed model with the ethnic characteristics of social models, counselors, and subjects as fixed effects and the individual counselors as random effects. Therefore, the error term used was the common error of the analysis of variance, except for the

Figure 5

Summary of the Planned Comparisons

	Comparisons	Groups 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1.	Anglo Model vs. Chicano Model	+1	+1	+1	+1	+1	+1	+1	+1	-1	-1	-1	-1	-1	-1	-1	-1
2.	Anglo Counselor vs. Chicano Counselor	+1	+1	+1	+1	-1	-1	-1	-1	+1	+1	+1	+1	-1	-1	-1	-1
3.	A. M. vs. C. M. X A. C. vs. C. C.	+1	+1	+1	+1	-1	-1	-1	-1	-1	-1	-1	-1	+1	+1	+1	+1
4.	Anglo Subject vs. Chicano Subject	+1	+1	-1	-1	+1	+1	-1	-1	+1	+1	-1	-1	+1	+1	-1	-1
5.	A. S. vs. C. S. X A. M. vs. C. M.	+1	+1	-1	-1	+1	+1	-1	-1	-1	-1	+1	+1	-1	-1	+1	+1
6.	A. S. vs. C. S. X A. C. vs. C. C.	+1	+1	-1	-1	-1	-1	+1	+1	+1	+1	-1	-1	-1	-1	+1	+1
7.	A. S. vs. C. S. X A. M. vs. C. M. X A. C. vs. C. C.	+1	+1	-1	-1	-1	-1	+1	+1	-1	-1	+1	+1	+1	+1	-1	-1
8.	Within Anglo Counselors	+1	-1	+1	-1					+1	-1	+1	-1				
9.	Within Chicano Counselors					+1	-1	+1	-1					+1	-1	+1	-1
10.	A. M. vs. C. M. X Within A. C.	+1	-1	+1	-1					-1	+1	-1	+1				
11.	A. M. vs. C. M. X Within C. C.					+1	-1	+1	-1					-1	+1	-1	+1
12.	A. S. vs. C. S. X Within A. C.	+1	-1	-1	+1					+1	-1	-1	+1				
13.	A. S. vs. C. S. X Within C. C.					+1	-1	-1	+1					+1	-1	-1	+1
14.	A. S. vs. C. S. X A. M. vs. C. M. Within A. C.	+1	-1	-1	+1					-1	+1	+1	-1				
15.	A. S. vs. C. S. X A. M. vs. C. M. Within C. C.					+1	-1	-1	+1					-1	+1	+1	-1

main effects within Anglo and within Chicano counselors where the interaction effects were used as error terms. The degrees of freedom for determining statistical significance of the F ratios were 48 and 1 and 1 and 1 respectively.

In addition to the statistical procedures described above, t ratios were computed to test differences between each treatment group pooled over Anglo or Chicano experimental counselors and groups of Anglo or Chicano controls not otherwise included in the study. The fact that all subjects were recruited from the same junior high school via an identical invitation for the special counseling, the presence of four additional counselors during the experimental period, and the elaborate equipment required for the demonstration of the videotaped social models, all or in part have perhaps affected the control subjects. Still, it was felt that the additional information provided by comparing each of the treatment groups with both the Anglo and the Chicano control groups would further the understanding of the treatment effects investigated in the study.

The three dependent variables for each of the aforementioned statistical tests were: (1) the subjects' recall of the ethnic backgrounds of the social models and experimental counselors to which they were exposed, and their recall of the four decision-making behaviors demonstrated by the social models, (2) the frequency and (3) the variety of information-seeking behaviors in which the subjects engaged both during the administration of the treatment procedures and during a three-week post-experimental period. The correlations between the dependent variables is not known; therefore, the conclusions derived from the planned comparisons for testing one variable, e.g., recall, cannot be related to the conclusions derived from the parallel comparisons for testing the other two dependent variables, e.g., frequency and variety of information-seeking behaviors. However, all three dependent variables are discussed sequentially under the appropriate headings to avoid unnecessary repetition of the research questions and hypotheses. Table 7 provides the total scores for each treatment group for each dependent variable. The cell means for recall are indicated in Table 8, those for frequency of information-seeking in Table 9, and the means for variety of information-seeking in Table 10. Tables 11 through 13 present the results of the planned comparisons used for testing the hypotheses formulated for the various treatments for each of the three dependent variables. In addition, Figures 6 through 11 present graphic illustrations

Table 7

Total Score of Each of the Groups for the Three Dependent Variables

Group		Recall	Frequency ISB	Variety ISB
1.	(AM)(AS)(AC1)	23	43	23
2.	(AM)(AS)(AC2)	25	37	17
3.	(AM)(CS)(AC1)	20	17	11
4.	(AM)(CS)(AC2)	15	27	20
5.	(AM)(AS)(CC1)	24	25	12
6.	(AM)(AS)(CC2)	24	30	18
7.	(AM)(CS)(CC1)	21	21	12
8.	(AM)(CS)(CC2)	28	7	5
9.	(CM)(AS)(AC1)	24	20	14
10.	(CM)(AS)(AC2)	22	33	17
11.	(CM)(CS)(AC1)	18	28	15
12.	(CM)(CS)(AC2)	28	27	14
13.	(CM)(AS)(CC1)	19	23	11
14.	(CM)(AS)(CC2)	23	42	19
15.	(CM)(CS)(CC1)	21	29	14
16.	(CM)(CS)(CC2)	24	22	17

(AM) = Anglo Model
(CM) = Chicano Model
(AS) = Anglo Subject
(CS) = Chicano Subject
(AC1) = Anglo Counselor #1
(AC2) = Anglo Counselor #2
(CC1) = Chicano Counselor #1
(CC2) = Chicano Counselor #2

Table 8

Means of Recall
by Model, Subject, and Counselor

		VIDEOTAPED SOCIAL MODELS				
		Anglo		Chicano		
		SUBJECTS		SUBJECTS		
		Anglo	Chicano	Anglo	Chicano	
Experimental Counselors	Anglo Counselor #1	5.75	5.00	6.00	4.50	5.3125
	Anglo Counselor #2	6.25	3.75	5.50	7.00	5.6250
	Chicano Counselor #1	6.00	5.25	4.75	5.25	5.3125
	Chicano Counselor #2	6.00	7.00	5.75	6.00	6.1875
		6.0000	5.2500	5.5000	5.6875	5.609375

Table 9

Means of Frequency of Information-seeking Behavior
by Model, Subject, and Counselor

		VIDEOTAPED SOCIAL MODELS				
		Anglo		Chicano		
		SUBJECTS		SUBJECTS		
		Anglo	Chicano	Anglo	Chicano	
Experimental Counselors	Anglo Counselor #1	10.75	4.25	5.00	7.00	6.7500
	Anglo Counselor #2	9.25	6.75	8.25	6.75	7.7500
	Chicano Counselor #1	6.25	5.25	5.75	7.25	6.1250
	Chicano Counselor #2	7.50	1.75	10.50	5.50	6.3125
		8.4375	4.5000	7.3750	6.6250	6.734375

Table 10

Means of Variety of Information-seeking Behavior by Model, Subject, and Counselor

		VIDEOTAPED SOCIAL MODELS				
		Anglo		Chicano		
		SUBJECTS		SUBJECTS		
		Anglo	Chicano	Anglo	Chicano	
Experimental Counselors	Anglo Counselor #1	5.75	2.75	3.50	3.75	3.9375
	Anglo Counselor #2	4.25	5.00	4.25	3.50	4.2500
	Chicano Counselor #1	3.00	3.00	2.75	3.50	3.0625
	Chicano Counselor #2	4.50	1.25	4.75	4.25	3.6875
		4.3750	3.0000	3.8125	3.7500	3.734375

Table 11

Planned Comparisons of Recall

Source	Sums of Squares	Degrees of Freedom	Variance Estimates	F
A Anglo Model vs. Chicano Model	0.015625	1	0.015625	0.009463
B Anglo Counselor vs. Chicano Counselor	1.265625	1	1.265625	0.766561
A B	5.640625	1	5.640625	3.416405**
C Anglo Subject vs. Chicano Subject	1.265625	1	1.265625	0.766561
A C	3.515625	1	3.515625	2.129338*
B C	4.515625	1	4.515625	2.735016*
A B C	1.890625	1	1.890625	1.145110
Within Anglo Counselors	0.781250	1	0.781250	0.473186
Within Chicano Counselors	6.125000	1	6.125000	3.709780**
A (Within Anglo Counselors)	3.781250	1	3.781250	0.335180
A (Within Chicano Counselors)	0.000000	1	0.000000	0.000000
C (Within Anglo Counselors)	0.781250	1	0.781250	0.069252
C (Within Chicano Counselors)	1.125000	1	1.125000	0.562500
A C (Within Anglo Counselors)	11.281250	1	11.281250	6.832810***
A C (Within Chicano Counselors)	2.000000	1	2.000000	1.211356
Error	79.250000	48	1.651041	
Total	123.234375	63		

*p < .25   **p < .10   ***p < .025

Table 12

Planned Comparisons of Frequency Information-seeking Behavior

Source	Sums of Squares	Degrees of Freedom	Variance Estimates	F
A Anglo Model vs. Chicano Model	4.515625	1	4.515625	0.203092
B Anglo Counselor vs. Chicano Counselor	17.015625	1	17.015625	0.765284
A B	37.515625	1	37.515625	1.687280*
C Anglo Subject vs. Chicano Subject	87.890625	1	87.890625	3.952916**
A C	40.640625	1	40.640625	1.827828*
B C	0.765625	1	0.765625	0.034434
A B C	9.765625	1	9.765625	0.439212
Within Anglo Counselors	8.000000	1	8.000000	0.359803
Within Chicano Counselors	0.281250	1	0.281250	0.012649
A (Within Anglo Counselors)	2.000000	1	2.000000	0.071111
A (Within Chicano Counselors)	13.781250	1	13.781250	9.000000*
C (Within Anglo Counselors)	0.125000	1	0.125000	0.004444
C (Within Chicano Counselors)	63.281250	1	63.281250	41.326530
A C (Within Anglo Counselors)	28.125000	1	28.125000	1.264933
A C (Within Chicano Counselors)	1.531250	1	1.531250	0.068868
Error	1067.250000	48	22.234375	
Total	1382.484375	63		

*p $<$ .25 **p $<$ .10

Table 13

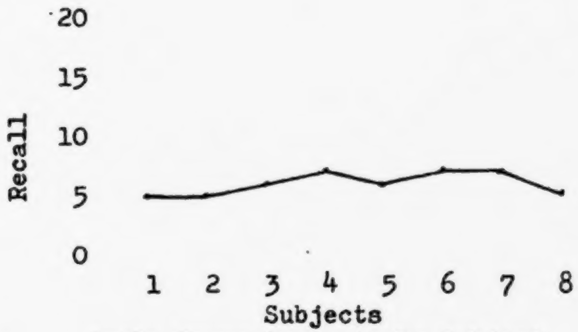
Planned Comparisons of Variety Information-seeking Behavior

Source	Sums of Squares	Degrees of Freedom	Variance Estimates	F
A Anglo Model vs. Chicano Model	0.140625	1	0.140625	0.050092
B Anglo Counselor vs. Chicano Counselor	8.265625	1	8.265625	2.944341**
A B	9.765625	1	9.765625	3.478663**
C Anglo Subject vs. Chicano Subject	8.265625	1	8.265625	2.944341**
A C	6.890625	1	6.890625	2.454545*
B C	0.015625	1	0.015625	0.005565
A B C	0.765625	1	0.765625	0.272727
Within Anglo Counselors	0.781250	1	0.781250	0.278293
Within Chicano Counselors	3.125000	1	3.125000	1.113172
A (Within Anglo Counselors)	0.031250	1	0.031250	0.002770
A (Within Chicano Counselors)	4.500000	1	4.500000	2.250000
C (Within Anglo Counselors)	3.781250	1	3.781250	0.335180
C (Within Chicano Counselors)	10.125000	1	10.125000	5.062500
A C (Within Anglo Counselors)	11.281250	1	11.281250	4.018552**
A C (Within Chicano Counselors)	2.000000	1	2.000000	0.712430
Error	134.750000	48	2.807292	
Total	204.484375	63		

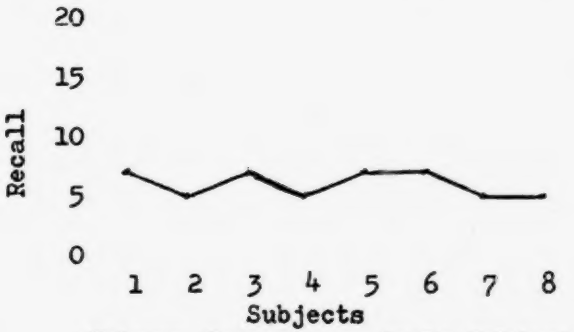
*$p < .25$ **$p < .10$

Figure 6

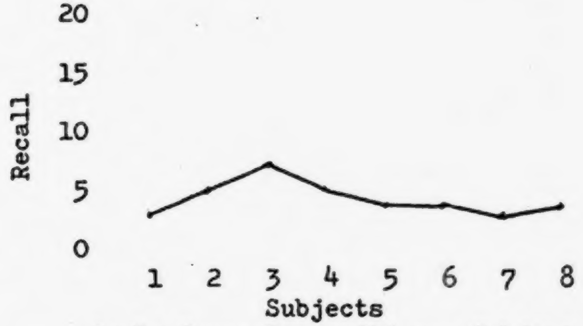
Recall/Anglo Model



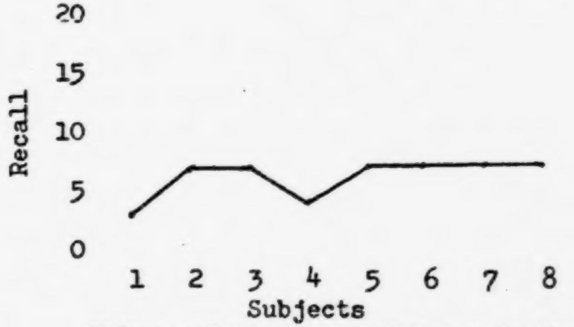
Anglo Counselor - Anglo Subject
Mean 6.000



Chicano Counselor - Anglo Subject
Mean 6.000



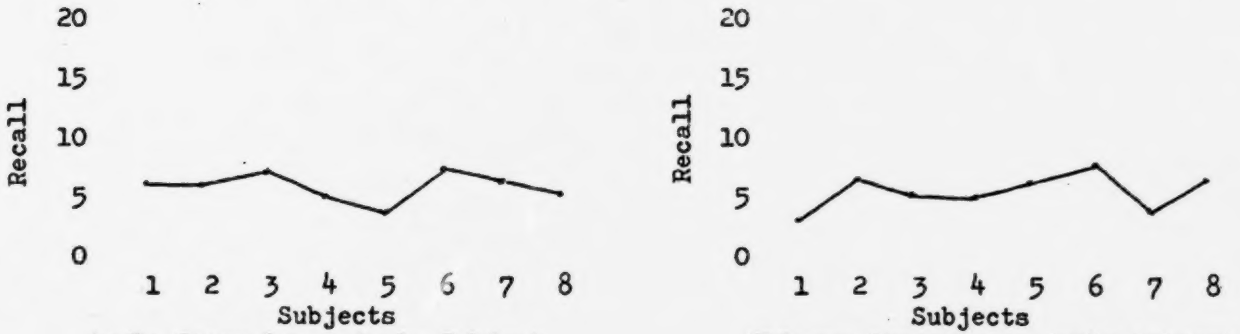
Anglo Counselor - Chicano Subject
Mean 4.375



Chicano Counselor - Chicano Subject
Mean 6.125

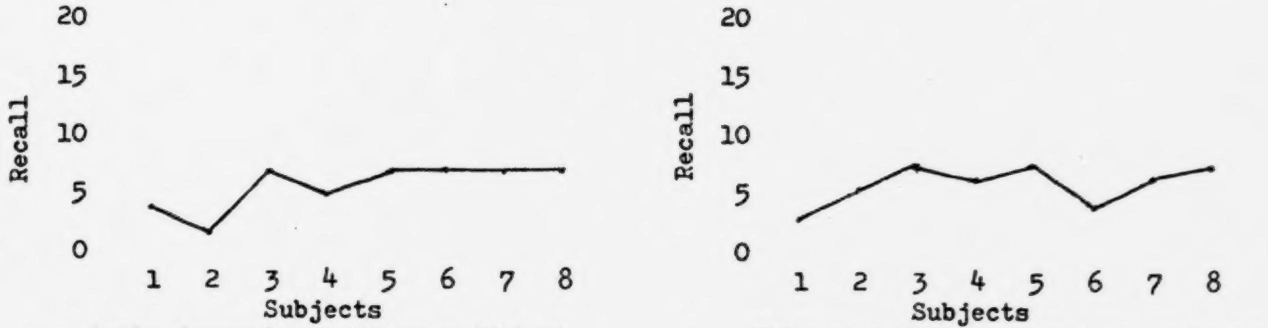
Figure 7

Recall/Chicano Model



Anglo Counselor - Anglo Subject
Mean 5.750

Chicano Counselor - Anglo Subject
Mean 5.250

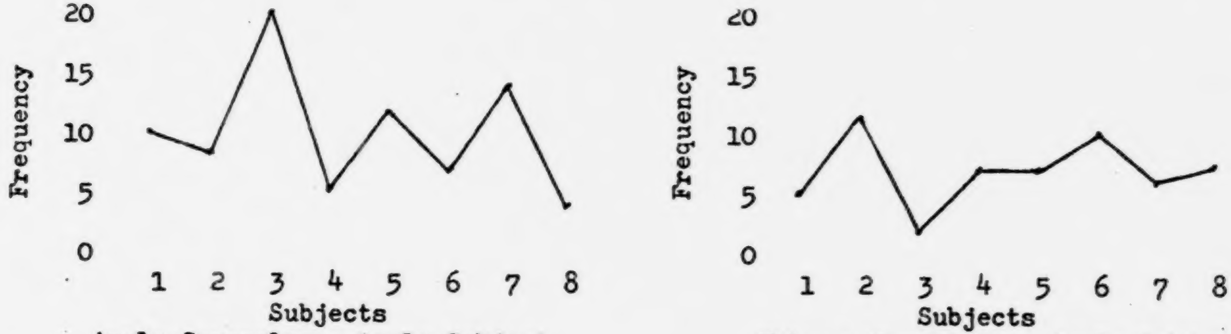


Anglo Counselor - Chicano Subject
Mean 5.750

Chicano Counselor - Chicano Subject
Mean 5.625

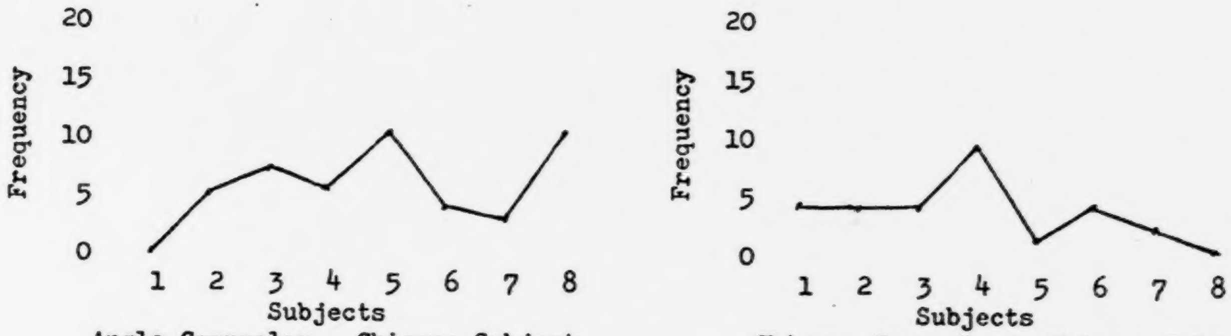
Figure 8

Frequency Information-seeking/Anglo Model



Anglo Counselor - Anglo Subject
Mean 10.000

Chicano Counselor - Anglo Subject
Mean 6.875

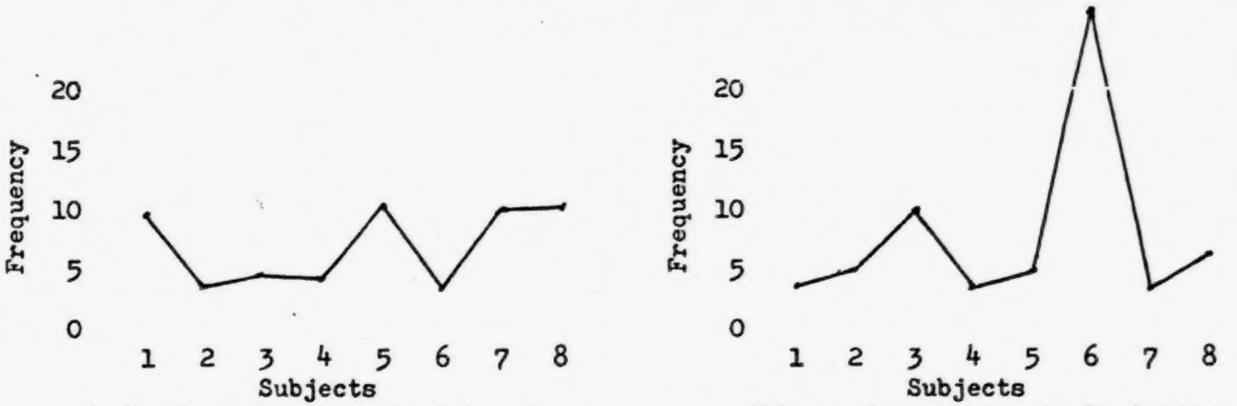


Anglo Counselor - Chicano Subject
Mean 5.500

Chicano Counselor - Chicano Subject
Mean 3.500

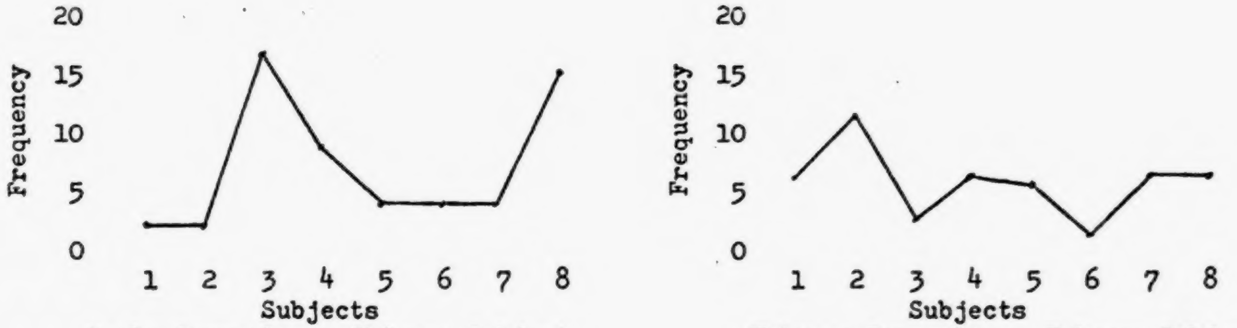
Figure 9

Frequency Information-seeking/Chicano Model



Anglo Counselor - Anglo Subject
Mean 6.625

Chicano Counselor - Anglo Subject
Mean 8.125

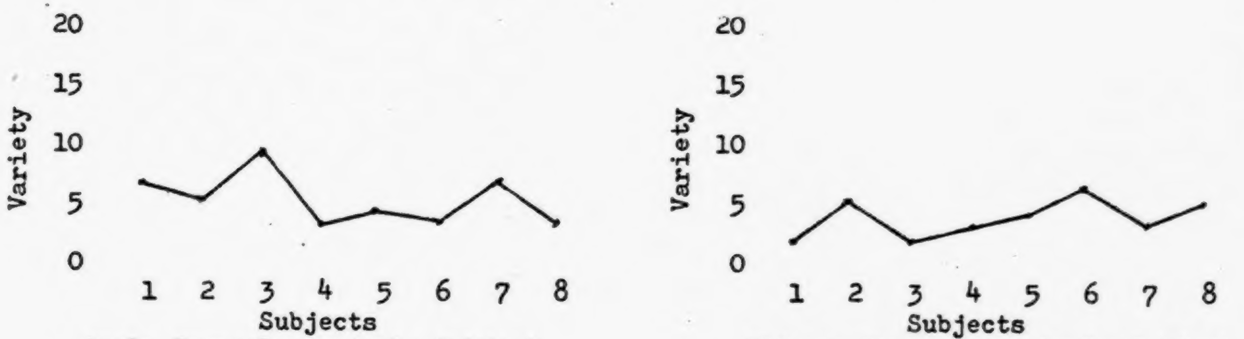


Anglo Counselor - Chicano Subject
Mean 6.875

Chicano Counselor - Chicano Subject
Mean 6.375

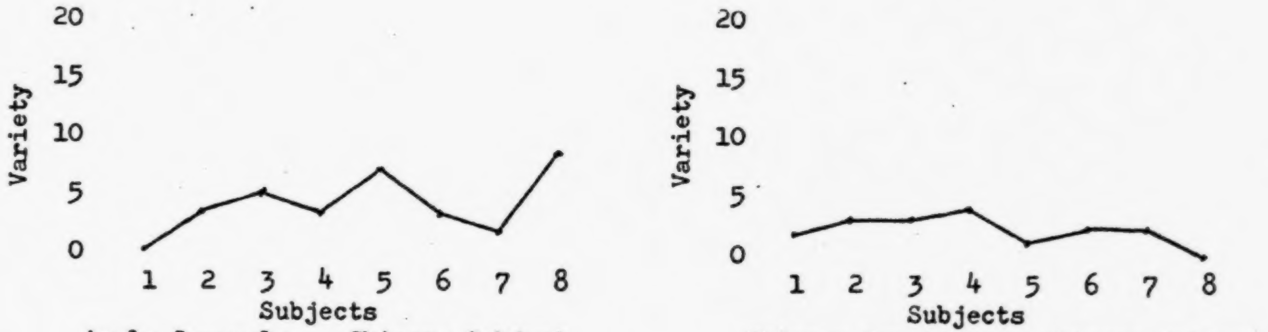
Figure 10

Variety Information-seeking/Anglo Model



Anglo Counselor - Anglo Subject
Mean 5.000

Chicano Counselor - Anglo Subject
Mean 3.750

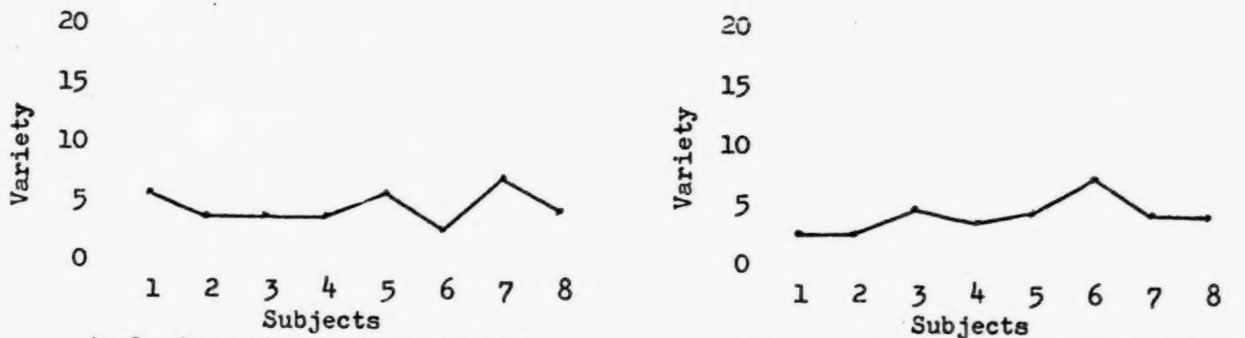


Anglo Counselor - Chicano Subject
Mean 3.875

Chicano Counselor - Chicano Subject
Mean 2.125

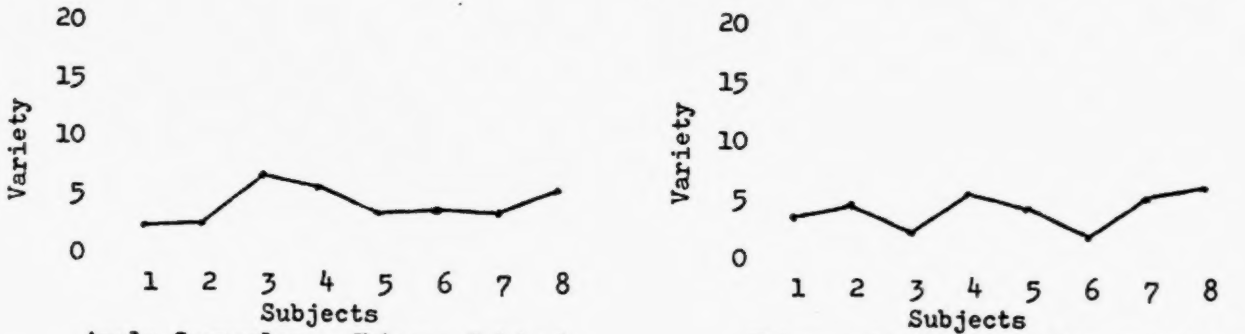
Figure 11

Variety Information-seeking/Chicano Model



Anglo Counselor - Anglo Subject
Mean 3.875

Chicano Counselor - Anglo Subject
Mean 3.750



Anglo Counselor - Chicano Subject
Mean 3.625

Chicano Counselor - Chicano Subject
Mean 3.875

of each subject's score on each of the three dependent variables.

Comparison of Treatment Groups

This study explored the influence of social models on both the acquisition and the performance of modeled behavior. The discussion of the results is directed first to the acquisition of modeled behavior, i.e., subject recall, and second to the performance of modeled behavior, i.e., the frequency and variety of information-seeking behavior (ISB). The conclusions derived from the data for one dependent variable do not necessarily apply to either of the other two dependent variables since the interaction between the dependent variables is unknown. Each question and hypothesis is treated according to the results obtained by pooling the data over the experimental counselors; afterwards the effects within Anglo and Chicano counselors are considered.

Interaction Effect between Social Models and Subjects

Question 1: Recall. The first experimental question was related to the acquisition of modeled behavior and stated: "Will the ethnic background of social models affect the degree to which subjects recall specific behaviors and characteristics demonstrated by these social models?" The following hypothesis was tested:

> Subjects exposed to social models having ethnic characteristics similar to their own will recall a greater number of the modeled decision-making behaviors and ethnic characteristics than will subjects exposed to social models having ethnic characteristics dissimilar to their own.

Table 8 provides the means for recall of each treatment group and Table 11, the results of the planned comparisons for testing recall. On the basis of these data one would not reject the null hypothesis. The evidence failed to confirm that the similarity of ethnic backgrounds between social models and subjects exerted a significant effect on the subjects' recall of modeled decision-making behaviors and of ethnic characteristics. The obtained differences would occur by chance alone less than one out of four times, but this difference does not reach the traditional statistical levels of significance required for rejection of the null hypothesis, i.e., $p < .05$. Table 8 indicates that the mean scores of both Anglo and Chicano subjects were higher for those subjects exposed to social models having ethnic characteristics similar to their own than for those subjects exposed to social models having dissimilar ethnic backgrounds. The means for those groups in which the ethnic backgrounds of the social models and subjects were similar were higher than the over-all mean for both Anglo and Chicano subjects. On the other hand, the means for those groups in which the ethnic backgrounds of the social models and subjects were dissimilar were lower than the over-all mean.

Question 2: Frequency and Variety of ISB. The second experimental question was concerned with the acquisition of modeled behavior and was formulated as follows: "Will the ethnic background of social models affect the degree to which subjects engage in the frequency and variety of information-seeking behaviors as demonstrated by these social models?" The hypothesis related to this question was:

> Subjects exposed to social models having ethnic characteristics similar to their own will engage in a greater number and variety of the modeled information-seeking activities than will subjects exposed to social models having ethnic characteristics dissimilar to their own.

Table 9 provides the means for frequency of ISB and Table 12, the planned comparisons used for testing this hypothesis. The evidence obtained for this variable is similar to that obtained for recall, and again the null hypothesis cannot be rejected. The frequency of ISB under conditions of similarity in ethnic background was not significantly different from the frequency of ISB when social models and subjects were of dissimilar ethnic backgrounds. The obtained differences would occur only beyond the $p < .25$ level, which fails to attain traditional levels of statistical significance. The data in Table 9 reports that the highest means occurred for the Anglo subjects, irrespective of the ethnic characteristics of the social models to which the subjects were exposed. However, again both Anglo and Chicano subjects performed more of the modeled behavior when exposed to models of similar ethnic backgrounds. The lowest mean occurred for Chicano subjects exposed to Anglo models.

The cell means for variety of ISB are provided in Table 10 and the planned comparisons for testing the hypothesis, in Table 13. Once again the null hypothesis cannot be rejected since the differences between similarity and dissimilarity of ethnic characteristics between social models and subjects resulted in a differential that would occur only beyond the $p < .25$ level, which does not attain traditional levels of statistical significance. As Table 10 indicates, Anglo subjects exposed to Anglo social models again obtained the highest mean, and the variety of ISB for Anglo subjects was greater than the variety of ISB for Chicano subjects irrespective of the social models' ethnic backgrounds. The lowest mean score was reported for Chicano subjects exposed to Anglo social models.

Both Anglo and Chicano subjects performed most criterion behaviors when they were exposed to social models of similar ethnicity to themselves.

Interaction Effect between Experimental Counselors and Subjects

Question 3: Recall. The third question stated: "Will the ethnic background of counselors affect the degree to which subjects recall specific behaviors and characteristics demonstrated by social models of similar or different ethnic characteristics?" The corresponding hypothesis was:

> Subjects counseled by counselors having ethnic characteristics similar to their own will recall a greater number of the modeled decision-making behaviors and ethnic characteristics than will similar subjects counseled by counselors having ethnic characteristics dissimilar to their own who employ the identical social model procedures.

For ease of interpretation, the cell means presented in Table 8 were regrouped by ethnic backgrounds of experimental counselors and subjects. These data are listed in Table 14. Table 11 provides the planned comparisons for testing the interaction between experimental counselors and subjects for recall. On the basis of the evidence in Tables 11 and 14 one would not reject the null hypothesis since the obtained F ratio fails to support the

Table 14

Means of Recall by Counselor and Subject

Counselor	(AC1)*		(AC2)		(CC1)		(CC2)	
Subject	(AS)	(CS)	(AS)	(CS)	(AS)	(CS)	(AS)	(CS)
(AM)	5.75	5.00	6.25	3.75	6.00	5.25	6.00	7.00
(CM)	6.00	4.50	5.50	7.00	4.75	5.25	5.75	6.00
5.609375	5.875	4.750	5.875	5.375	5.375	5.250	5.875	6.500

*Complete explanation of symbols is provided in Table 7, p. 112.

hypothesized difference for recall resulting from ethnic similarity or dissimilarity among counselors and subjects. The obtained difference would occur only beyond the $p < .25$ level, thus not reaching the usual statistical differences needed for rejection. Table 14 indicates that Anglo subjects interacting with Anglo counselors obtained higher means than did Chicano subjects counseled by these same counselors. The Anglo subjects had higher recall means than the Chicano subjects for all experimental counselors except for Chicano counselor #2 whose Chicano subjects obtained the highest group mean of all eight cells.

Table 11 indicates the planned comparisons for testing the effects of subject ethnicity within Anglo counselors and within Chicano counselors. Neither comparison reached statistical significance, indicating that the counselors within each ethnic group had substantially the same effects on their respective subjects.

Question 4: Frequency and Variety of ISB. Performance of the modeled behavior as it was affected by the interaction of ethnic similarity among experimental counselors and subjects was investigated in Question 4: "Will the ethnic background of counselors affect the degree to which subjects engage in the frequency and variety of information-seeking behaviors demonstrated by social models of similar or different ethnic characteristics?" The research hypothesis formulated to test this interaction effect was:

> Subjects counseled by counselors having ethnic characteristics similar to their own will engage in a greater number and variety of the modeled information-seeking activities than will similar subjects counseled by counselors having ethnic characteristics dissimilar to their own who employ the identical social model procedures.

Table 15 indicates the group means for each combination of counselor and subject ethnicity, pooled over social models.

Table 12 lists the planned comparisons for testing differences in ethnic similarity and dissimilarity between counselors and subjects for frequency of ISB. On the basis of these data the null hypothesis cannot be rejected since the frequency of ISB for subjects interacting with counselors of similar ethnic background was not significantly

Table 15

Means of Frequency of ISB by Counselor and Subject

Counselor	(AC1)*		(AC2)		(CC1)		(CC2)	
Subject	(AS)	(CS)	(AS)	(CS)	(AS)	(CS)	(AS)	(CS)
(AM)	10.75	4.25	9.25	6.75	6.25	5.25	7.50	1.75
(CM)	5.00	7.00	8.25	6.75	5.75	7.25	10.50	5.50
6.734375	7.875	5.625	8.750	6.750	6.000	6.250	9.000	3.625

*Complete explanation of symbols is provided in Table 7, p. 112.

different from that for subjects interacting with counselors of dissimilar ethnic characteristics. Table 15 demonstrates that both groups of Anglo subjects counseled by Anglo counselors performed more of the criterion behavior than did the Chicano subjects exposed to the same counselors. For Chicano counselor #1 there was a small difference in favor of the Chicano subjects, while the Anglo subjects counseled by Chicano counselor #2 obtained the highest mean of all eight groups.

The effects of subject ethnicity within the Anglo counselors failed to reach statistical significance; however, the effects within the Chicano counselors would occur beyond the $p < .10$ level of significance. Table 15 indicates that whereas the means for Anglo and Chicano subjects were virtually the same for Chicano counselor #1, the Anglo subjects scored the highest mean and the Chicano subjects, the lowest of all eight groups for Chicano counselor #2.

The comparisons for testing the hypothesized differences in variety of ISB are presented in Table 13; Table 16 summarizes the group means for this variable for cells of ethnic similarity and dissimilarity between counselors and subjects, pooled over social models.

Table 16

Means of Variety of ISB by Counselor and Subject

Counselor	(AC1)*		(AC2)		(CC1)		(CC2)	
Subject	(AS)	(CS)	(AS)	(CS)	(AS)	(CS)	(AS)	(CS)
(AM)	5.75	2.75	4.25	5.00	3.00	3.00	4.50	1.25
(CM)	3.50	3.75	4.25	3.50	2.75	3.50	4.75	4.25
3.734375	4.625	3.250	4.250	4.250	2.875	3.250	4.625	2.750

*Complete explanation of symbols is provided in Table 7, p. 112.

The data presented in these tables indicate that the null hypothesis would not be rejected and that the similarity or dissimilarity of ethnic backgrounds between counselors and subjects did not affect the variety of ISB carried out by the subjects. Table 16 indicates that a lack of pattern existed among the various cell means for this variable.

The evidence presented in Table 13 for the planned comparisons within Anglo and within Chicano counselors for variety of ISB indicates that no statistical significance was found.

Interaction Effect between Social Models, Counselors, and Subjects

Question 5: Recall. The fifth question asked: "Will the ethnic background of social models combined with the ethnic background of counselors affect the degree to which subjects recall specific behaviors and characteristics demonstrated by these social models and presented by these counselors?" The interaction hypothesis tested to answer this question was:

> A significant interaction will occur between the ethnic characteristics of social models, the ethnic characteristics of counselors, and the ethnic characteristics of subjects. Subjects will recall significantly more modeled behaviors when exposed to social models and/or counselors having the same ethnic backgrounds as themselves than will subjects exposed to social models and/or counselors of different ethnic backgrounds.

The second order interaction for recall between the ethnic backgrounds of social models and counselors and subjects did not reach levels of statistical significance, as is indicated in Table 11. On the basis of these data the null hypothesis would not be rejected since the obtained results failed to confirm the hypothesized difference effected by the interaction of the three main variables. Table 8 indicates that the group means pooled over counselors of similar ethnic backgrounds did not deviate significantly from the over-all mean; thus, the hypothesized interaction effect was not supported.

Inspection of Table 11 indicates that while no significant interaction of social models and subjects occurred within Chicano counselors, one was found for within Anglo counselors ($p < .025$), thus reaching traditional levels of statistical significance. Further, the data in Table 8 suggest that Chicano subjects exposed to Anglo models presented by Anglo counselor #2 recalled less of the modeled behavior and fewer of the modeled characteristics than did those in any other treatment group; on the other hand, Chicano subjects exposed to Chicano models presented by this same counselor obtained the highest mean for recall. This pattern is not present for Anglo counselor #1; Anglo subjects counseled by him had consistently higher means for recall than did the Chicano subjects whom he counseled.

Question 6: Frequency and Variety of ISB. Question 6 asked: "Will the ethnic background of social models, combined with the ethnic background of counselors, affect the degree to which subjects engage in the frequency and variety of information-seeking behaviors demonstrated by these social models and presented by these counselors?" The interaction hypothesis formulated to test this question stated:

> A significant interaction will occur between the ethnic characteristics of social models, the ethnic characteristics of counselors, and the ethnic characteristics of subjects. Subjects will perform significantly more modeled behaviors when exposed to social models and/or counselors having the same ethnic backgrounds as themselves than will subjects exposed to social models and/or counselors of different ethnic backgrounds.

Table 12 provides the planned comparisons used for testing this hypothesis. The data fail to support any interaction effect occurring for ethnic similarity between social models, counselors, and subjects for the frequency of ISB; hence the null hypothesis cannot be rejected. Table 12 also indicates that the interaction effects between social models, counselors, and subjects were not significant within either Anglo counselors or within Chicano counselors; therefore, no further conclusions can be derived from these data.

As indicated in Table 13, the interaction of the three main variables failed to reach statistical significance for variety of ISB; thus, once again the null hypothesis cannot be rejected. Comparisons within counselors of similar ethnic backgrounds show that there was no significant difference within Chicano counselors but that the difference within Anglo counselors was significant beyond the $p < .10$ level. The group means listed in Table 10 indicate that ethnic similarity between social models and subjects resulted in higher mean scores for both Anglo and Chicano subjects counseled by Anglo counselor #1, but that the opposite was true for Anglo counselor #2.

Main Effects

Question 7: Social Models. The seventh question stated: "Will a specific type of ethnic model, e.g., Anglo, be more effective in promoting imitative behaviors among subjects regardless of their ethnic backgrounds than will another type of ethnic model, e.g., Chicano?" No research hypothesis was formulated to test this question but Tables 11 through 13 fail to provide statistical differences between the two types of ethnic models employed either for recall or for frequency or variety of ISB.

Question 8: Experimental Counselors. The second main effect was the ethnic background of the experimental counselors. The research question related to this variable asked: "Will a specific ethnic type of counselor, e.g., Chicano, be more effective in promoting the criterion behaviors among subjects regardless of their ethnic backgrounds than another ethnic type of counselor, e.g., Anglo?" Table 11 indicates that the planned comparisons used for testing differences between the ethnicity of the experimental counselors did not reach traditional levels of statistical significance for recall, and Table 12 presents the same evidence for frequency of ISB. The effect of ethnic characteristics between experimental counselors on the variety of ISB did reach statistical significance beyond the $p < .10$ level as indicated in Table 13. The group means pooled over social models to which the subjects were exposed (cf. Table 10) indicate that subjects counseled by either of the Anglo counselors had higher cell means than did subjects counseled by either of the Chicano counselors, the former being above the over-all mean and the latter below the over-all mean.

Differences within Anglo counselors and within Chicano counselors were not substantiated for frequency of ISB (cf. Table 12) or for variety of ISB (cf. Table 13). Inspection of the comparisons within experimental counselors for recall shows no significant difference for Anglo counselors; however, a difference was found for within Chicano counselors beyond the $p < .10$ level. Table 8 indicates that in three out of the four treatment combinations, subjects counseled by Chicano counselor #2 obtained higher group means than subjects counseled by Chicano counselor #1. In only one case were both cell means of equal magnitude and that occurred with the highest cell mean of any group counseled by Chicano counselor #1.

Question 9: Subjects. Question 9 asked: "Will a specific ethnic type of subject, e.g., Anglo, emit more imitative behaviors than another ethnic type of subject, e.g., Chicano, regardless of the ethnicity of the social models and/or the ethnicity of counselors to which these subjects are exposed?" Table 11 provides no evidence indicating a significant difference between Anglo and Chicano subjects for recall. However, there appears to be a difference between Anglo and Chicano subjects for frequency of ISB (cf. Table 12) and for variety of ISB (cf. Table 13). In each case, however, the difference only would occur beyond the $p < .10$ level of significance. The cell means for frequency of ISB (Table 9) show that in six out of eight similar treatment groups, the Anglo subjects performed more of the criterion behavior than did the Chicano subjects; in two instances cell means of Anglo subjects almost doubled the magnitude of the over-all mean. The difference is less pronounced for the group means in variety of ISB (cf. Table 10), but here also groups of Anglo subjects had higher cell means on four out of eight cells than did groups of Chicano subjects exposed to similar treatment conditions. For both frequency of ISB (Table 9) and for variety of ISB (Table 10), the means of cells with Anglo subjects pooled over models and experimental counselors were higher than the over-all means for these variables, while the pooled means for cells with Chicano subjects were below the over-all means of both frequency and variety of ISB.

Comparison of Treatment and Control Groups

In order to compare the relative effects of the treatments administered with inactive control groups in respect to information-seeking behaviors, the following hypothesis was tested:

> Subjects exposed to social modeling procedures will engage in a greater number and variety of information-seeking activities than will similar subjects in an inactive control group.

Only six Chicano subjects served as controls due to the necessity of eliminating all Chicano subjects who did not speak English as a first language and to the limited number of Chicano subjects available for the study. An equal number of Anglo subjects was randomly assigned to the Anglo control group. These small Ns make any interpretation of the data highly tentative in that by chance alone one score could produce spurious results. Tables 17 through 20 indicate the t ratios for frequency and variety of ISB, comparing Anglo and Chicano control groups with all treatment groups, pooled over counselors of similar ethnicity.

On the basis of the evidence provided by the data in Tables 17 through 20, the null hypothesis would not be rejected since the obtained results failed to confirm the hypothesized differences between treatment and control groups. Only the means of the experimental condition where the social models, experimental counselors, and subjects were all Anglo, show any consistent difference in favor of the experimental group. The means of the experimental condition where Anglo social models were used by Chicano counselors with Chicano subjects were consistently less for either criterion behavior than were those of Anglo and Chicano control groups. While some of the remaining t ratios did reach the $p < .25$ level of significance, they were not associated with consistent trends in the data and therefore are not interpreted here.

It should be noted that generalizations of these findings to the earlier studies using social modeling to promote

Table 17

Group Means, SD's, N's, and t Ratios for Frequency of Information-seeking Behaviors Compared with Anglo Controls

Group	N	X	SD		N	X	SD	t
(AM)(AS)(AC)	8	10.000	5.264	Control	6	5.833	6.676	-1.31*
(AM)(CS)(AC)	8	5.500	3.423					0.12
(AM)(AS)(CC)	8	6.875	2.800					-0.40
(AM)(CS)(CC)	8	3.500	2.726					0.90*
(CM)(AS)(AC)	8	6.625	3.378					-0.29
(CM)(CS)(AC)	8	6.875	5.643					-0.32
(CM)(AS)(CC)	8	8.125	7.882					-0.57
(CM)(CS)(CC)	8	6.375	3.021					-0.21

Note.--One Anglo Control reported a total of 19 information-seeking behaviors; he was interested in farming, lived and worked on a farm and regularly read farming literature.

$* = p < .25$

Table 18

Group Means, SD's, N's, and t Ratios for Frequency of Information-seeking Behaviors Compared with Chicano Controls

Group	N	X	SD		N	X	SD	t
(AM)(AS)(AC)	8	10.000	5.264	Control	6	7.333	6.022	-0.88*
(AM)(CS)(AC)	8	5.500	3.423					0.72*
(AM)(AS)(CC)	8	6.875	2.800					0.19
(AM)(CS)(CC)	8	3.500	2.726					1.61**
(CM)(AS)(AC)	8	6.625	3.378					0.28
(CM)(CS)(AC)	8	6.875	5.643					0.15
(CM)(AS)(CC)	8	8.125	7.882					-0.20
(CM)(CS)(CC)	8	6.375	3.021					0.39

Note.--One Chicano Control reported a total of 17 information-seeking behaviors; the evaluator remarked on the interview sheet: "Not sure if putting me on a little." This was the only case where any evaluator expressed doubt about a subject's reported behaviors.

$* = p < .25$

$** = p < .10$

Table 19

Group Means, SD's, N's, and t Ratios for Variety of Information-seeking Behaviors Compared with Anglo Controls

Group	N	X	SD		N	X	SD	t
(AM)(AS)(AC)	8	5.000	2.204	Control	6	3.000	1.789	-1.81***
(AM)(CS)(AC)	8	3.875	2.642					-0.70*
(AM)(AS)(CC)	8	3.750	1.488					-0.86*
(AM)(CS)(CC)	8	2.125	1.246					1.08*
(CM)(AS)(AC)	8	3.875	1.356					-1.04*
(CM)(CS)(AC)	8	3.625	1.506					-0.71*
(CM)(AS)(CC)	8	3.750	1.581					-0.83*
(CM)(CS)(CC)	8	3.875	1.458					-1.01*

See note, table 17.

* = $p < .25$

*** = $p < .05$

Table 20

Group Means, SD's, N's, and t Ratios for Variety of Information-seeking Behaviors Compared with Chicano Controls

Group	N	X	SD		N	X	SD	t
(AM)(AS)(AC)	8	5.000	2.204	Control	6	3.833	2.858	-0.87*
(AM)(CS)(AC)	8	3.875	2.642					-0.03
(AM)(AS)(CC)	8	3.750	1.488					0.07
(AM)(CS)(CC)	8	2.125	1.246					1.52**
(CM)(AS)(AC)	8	3.875	1.356					-0.04
(CM)(CS)(AC)	8	3.625	1.506					0.18
(CM)(AS)(CC)	8	3.750	1.581					0.07
(CM)(CS)(CC)	8	3.875	1.458					-0.04

See note, table 18.

* = $p < .25$

** = $p < .10$

information-seeking activities cannot be made. This investigation used different social models and employed different ethnic types of counselors. The ethnic characteristics of social models, counselors, and subjects were the independent variables for this study and no attempt was made to isolate the controls from experimental subjects, to prevent the controls from observing the videotape equipment, or from interacting with any of the experimental counselors.

Additional Inspection of the Data

Interaction Effect between Experimental Counselors and Social Models

No research questions or hypotheses were formulated for possible interactions between ethnic characteristics of social models and experimental counselors. However, the technique of planned comparisons provided this information and these interactions will be discussed at this point. Table 11 shows that the interaction for recall between ethnicity of models and counselors would occur beyond the $p < .10$ level of significance, thus less than the traditional standards. Table 21 presents the means of the treatment groups by experimental counselor and social model, pooled over subjects.

Table 21

Means for Recall by Counselor and Model

Counselor	(AC1)*		(AC2)		(CC1)		(CC2)	
Model	(AM)	(CM)	(AM)	(CM)	(AM)	(CM)	(AM)	(CM)
(AS)	5.75	6.00	6.25	5.50	6.00	4.75	6.00	5.75
(CS)	5.00	4.50	3.75	7.00	5.25	5.25	7.00	6.00
5.609375	5.375	5.250	5.000	6.250	5.625	5.000	6.500	5.875

*Complete explanation of symbols is provided in Table 7, p. 112.

The means for those groups counseled by Anglo counselors employing Anglo models were lower than those for groups counseled by Chicano counselors employing Anglo models. The combined mean of the Anglo counselors using Chicano models was slightly higher (5.75) than the combined mean of the Chicano counselors using Chicano models (5.4375). No statistical differences of model and counselor effects within Anglo or within Chicano counselors were found.

Table 12 provides the planned comparisons for testing model and counselor interaction for frequency of ISB, and Table 22 provides the corresponding means pooled over subjects. The interaction between ethnicity of counselor and model was only significant beyond the $p < .25$ level for frequency of ISB (cf. Table 12). The cell means for the Chicano models presented by Chicano counselors were higher

Table 22

Means for Frequency of ISB by Counselor and Model

Counselor	(AC1)*		(AC2)		(CC1)		(CC2)	
Model	(AM)	(CM)	(AM)	(CM)	(AM)	(CM)	(AM)	(CM)
(AS)	10.75	5.00	9.25	8.25	6.25	5.75	7.50	10.50
(CS)	4.25	7.00	6.75	6.75	5.25	7.25	1.75	5.50
6.734375	7.500	6.000	8.000	7.500	5.750	6.500	4.625	8.000

*Complete explanation of symbols is provided in Table 7, p. 112.

than were those for Anglo models presented by Chicano counselors. The planned comparisons did not demonstrate statistical evidence of model and counselor effect within Anglo counselors. A statistical difference beyond the $p < .25$ level occurred within Chicano counselors. This difference appears to exist due to the higher means obtained by Chicano counselor #2 when employing social models of similar ethnicity as he himself, while Chicano counselor #1 obtained the highest means when the social models were of similar ethnicity as the subjects.

Table 13 indicates that the results for variety of ISB for model and counselor interaction, pooled over counselors of similar ethnic background, were statistically significant beyond the $p < .10$ level. Both Anglo counselors had higher means when using Anglo rather than Chicano models, and both Chicano counselors had the highest means when employing Chicano models (cf. Table 23).

Table 23

Means for Variety of ISB by Counselor and Model

Counselor	(AC1)*		(AC2)		(CC1)		(CC2)	
Model	(AM)	(CM)	(AM)	(CM)	(AM)	(CM)	(AM)	(CM)
(AS)	5.75	3.50	4.25	4.25	3.00	2.75	4.50	4.75
(CS)	2.75	3.75	5.00	3.50	3.00	3.50	1.25	4.25
3.734375	4.250	3.625	4.625	3.875	3.000	3.125	2.875	4.500

*Complete explanation of symbols is provided in Table 7, p. 112.

Evidence of effects between model and counselor was not found in the planned comparisons for testing the variety of ISB within Anglo or within Chicano counselors.

CHAPTER IV

SUMMARY AND CONCLUSIONS

Summary of the Study

This investigation was designed as an experimental test of counseling procedures, derived from research in social learning theory, which can be used by counselors and educators to assist students in learning how to make plans and decisions more effectively. Specifically, the aim of this study was to determine the relative effects of ethnic characteristics of social models and of counselors on the acquisition and performance of modeled behaviors by male junior high school students of varying ethnic backgrounds. The Anglo and Mexican-American (Chicano) backgrounds of the social models, experimental counselors, and subjects were the ethnic characteristics which formed the independent variables. The dependent variables were (1) the recall of the four modeled decision-making behaviors and of the ethnic characteristics of social models and counselors; (2) the frequency and (3) the variety of information-seeking behaviors performed by the subjects.

Of the four hypotheses tested, three related to the interaction effects of the main variables, i.e., the ethnic characteristics of social models, counselors, and subjects, and one tested the treatment effects by comparing the experimental subjects with the inactive controls. It was hypothesized that the similarity of ethnic characteristics between social models and subjects would significantly increase both the degree of subject recall and the frequency and variety of information-seeking activities performed by the subjects. Furthermore, it was hypothesized that ethnic similarity between experimental counselors and subjects would significantly affect subject recall and performance of the criterion behaviors. It was also hypothesized that subjects would recall and perform significantly more of the criterion behaviors when exposed to social models and/or counselors having ethnic backgrounds similar to their own than would subjects exposed to social models and/or counselors having ethnic backgrounds dissimilar to their own. The fourth hypothesis stated that subjects exposed to model-reinforcement counseling would engage in a significantly greater number and variety of information-seeking behaviors than would similar subjects in an inactive control group.

The study also sought to answer three questions for which hypotheses were not formulated. These questions investigated the relative effects of the ethnic characteristics of social models, counselors, and subjects, and asked: "Will a specific ethnic type of social model, counselor, or subject be more effective in promoting the criterion behaviors than would the other ethnic type of social model, counselor, or subject?" In addition to these hypotheses and questions, the study explored the interaction effects of varying ethnic characteristics among social models and experimental counselors on subsequent imitative behaviors of subjects, and attempted to determine whether a difference in effect would be found within counselors of similar ethnicity.

The subjects were eighth grade male students enrolled in a junior high school in Fillmore, California, who indicated an interest in receiving special counseling regarding their high school and post-high school plans. The study employed a total of 16 active treatment groups, each made up of four subjects, and two inactive control groups, each made up of six subjects. Each treatment group consisted of a particular combination of ethnic characteristics of social models, experimental counselors, and subjects, e.g., Anglo social models were presented by a Chicano counselor to an Anglo subject. Replication of treatments by different counselors was incorporated in the design. One of the control groups was composed of Anglo and the other, of Chicano subjects. Participating in the study were 64 experimental subjects and 12 controls for a total N of 76. Randomization procedures were used to assign all subjects to treatment and control groups.

The counselors taking part in the investigation were male graduate students in the Counseling Psychology Program at the University of California, Santa Barbara. Specific training procedures were employed with the social model counselors as well as with the experimental counselors before the implementation of the study.

The experimental treatment consisted of a series of three counseling interviews during which four videotape recordings were presented. In the model videotapes peer social models demonstrated the four decision-making behaviors the study sought to promote: (1) surveying all possible alternatives; (2) collecting relevant information; (3) considering motivational aspects of each alternative; and (4) exploring the probabilities of success of each alternative. The videorecordings were designed in such a way that one decision-making step was demonstrated in each tape. The theoretical basis for these procedures, as well as for the hypotheses raised, was derived from the following principles gained from research in social learning:

(1) Behavior can be modified by exposure to significant social models.

(2) Reinforcing the behavior of the model promotes the performance of that behavior by the observer.

(3) Symbolic as well as live models are effective in promoting certain behaviors among observers.

(4) The extent to which an observer imitates the behavior of the model is due in part to the similarity existing between the model's characteristics and those of the observer.

The treatment procedures were evaluated by determining the accuracy of the recall of the modeled decision-making behaviors and of the modeled ethnic characteristics, and by determining the frequency and variety of information-seeking activities in which the subjects engaged during the two-week experimental period and/or the three-week post-experimental period. Three weeks after the final interview a paper-and-pencil recall questionnaire was administered to all experimental subjects in order to evaluate the accuracy of recall. Immediately following the issuance of the recall questionnaire, independent investigators, using structured evaluation forms, were employed to interview each experimental and control subject in order to assess the number and variety of the criterion behaviors carried out during the total experimental period.

For purposes of determining the accuracy of the subjects' self-reports on the frequency and variety of information-seeking activities, 25% of the protocols were randomly selected for confirmation of responses. The follow-up procedures were conducted by a member of the evaluation team. Eighty subject information-seeking activities were confirmed; none were invalidated; and thirty-eight were impossible to confirm.

Summary and Discussion of the Results

This study investigated the interaction effects between ethnic characteristics (Anglo and Chicano) of social models, experimental counselors, and subjects. Summary statements of the findings relative to the three main effects follow:

(1) Anglo and Chicano social models were equally effective in promoting imitative behaviors among observers of either Anglo or Chicano background.

(2) Anglo and Chicano experimental counselors were equally effective in counseling students of either ethnic background relative to their high school or post-high school plans.

(3) Anglo experimental subjects engaged in a greater frequency ($p < .10$) and a greater variety ($p < .10$) of information-seeking behaviors than did Chicano experimental subjects. No significant differences in recall between Anglo and Chicano subjects were found.

The results of the study indicate that the treatment procedure did not produce interaction effects significant beyond the traditional statistical levels ($p < .05$) between the three independent variables. Summary statements concerning the hypothesized effects follow:

(1) Similarity or dissimilarity of ethnic characteristics between social models and subjects did not significantly affect the degree to which subjects recalled the modeled behaviors or the extent or variety of information-seeking activities which they engaged in. However, the evidence obtained from the planned comparisons for all three dependent variables indicate that Anglo and Chicano subjects recalled or performed more of the criterion behaviors ($p < .25$) when exposed to social models of similar ethnicity as themselves than when they were exposed to social models of dissimilar ethnicity. These trends suggest that similarity of ethnic characteristics between social models and observers may be an important aspect of social modeling procedures.

(2) Similarity or dissimilarity of ethnic characteristics between experimental counselors and subjects did not significantly affect the degree to which subjects recalled the modeled behaviors or the extent or variety of information-seeking activities which they engaged in.

(3) Similarity or dissimilarity of ethnic characteristics between social models, experimental counselors, and subjects did not significantly affect the degree to which subjects recalled the modeled behaviors or the extent or variety of information-seeking behaviors which they engaged in.

(4) Anglo subjects exposed to Anglo social models presented by Anglo counselors performed a greater number and a greater variety of information-seeking activities than did either Anglo or Chicano control subjects. On the other hand, Chicano subjects exposed to Anglo models presented by Chicano counselors performed a smaller number and variety of information-seeking behaviors than did either Anglo or Chicano control subjects. A difference at traditionally significant statistical levels ($p < .05$) was found between Anglo subjects counseled by Anglo counselors using Anglo social models and Anglo controls for variety of ISB. Although additional differences were found between experimental and control subjects at the $p < .25$ level, they were not associated with consistent trends in the data.

Additional analysis of the data concerning interaction effects between social models and experimental counselors and concerning differences within Anglo and within Chicano counselors indicated:

(1) Interaction effects of ethnic characteristics between social models and experimental counselors did not reach traditional levels of statistical significance ($p < .05$) for subjects' recall ($p < .10$) or for frequency ($p < .25$) or variety ($p < .10$) of ISB performed by the subjects. However, the subjects recalled most of the criterion behaviors when presented with social models of ethnic backgrounds unlike those of their counselors, while subjects engaged in the greatest frequency and variety of the criterion behaviors when presented with social models with ethnic characteristics similar to those of their counselors.

(2) No significant differences were found within Anglo counselors or within Chicano counselors with the exception of a significant difference between Anglo counselors in the case of recall ($p < .025$). In this case Anglo counselor #1 was most effective with Anglo subjects while Anglo counselor #2 was most effective when social models and subjects were of similar ethnicity.

There are four possible explanations for the relative ineffectiveness of the treatment variables:

(1) All subjects were recruited from a rural junior high school in which the student population is about evenly divided between Anglo and Chicano and where, according to

local school personnel, interaction between the two ethnic groups is common. Therefore, the ethnic variables could have been less significant for the experimental subjects of this study than they might be for urban groups and/or for school populations where either ethnic group forms a distinct majority.

(2) The modeled behaviors presented on the videotapes and discussed in the experimental interviews were directly related to academic decisions regarding high school scheduling. If the modeled behaviors had been related to cultural practices readily identifiable with either ethnic group, the outcomes of the study might have been significantly different.

(3) The small number of subjects employed per treatment group may have prevented the detection of any difference in effect between the treatment variables. When statistical tests are computed between groups of small numbers, chance factors may influence results regardless of the power of the treatment variable.

(4) The gross criterion measures used as dependent variables in this study may have been affected by many factors, e.g., interest of the parents, previous histories of reinforcement or of imitation of modeled behavior, compliance with directions given at school. Although all

subjects were randomly assigned to treatment or control groups, there might have been persistent effects particular to either ethnic group. It must be noted, however, that there was no significant difference between the two ethnic groups in terms of opportunities for visiting a library or in terms of jobs held by the subjects. For example, it was established that all subjects had the opportunity to visit the libraries of the junior and senior high schools during school hours. In addition, the public library, located next to the junior high school, was equally available to all subjects. Eight Anglo and six Chicano experimental subjects and one Anglo control had part-time jobs which affected their ability to engage in modeled behaviors; two subjects (both Anglos) mentioned transportation as a problem for engaging in information-seeking activities; and one Anglo and five Chicano subjects listed schoolwork as an obstacle to visiting the library.

Implications for Further Research

Both the positive and the negative findings of the present investigation suggest several implications for further research. For example, this study attempted to distinguish between the effects of social modeling procedures on the acquisition and on the performance of modeled behaviors (Bandura, 1962, 1965, 1969). Evidence presented in Tables 12 and 13 indicates that Anglo subjects performed a greater number and a greater variety of imitative behaviors than did Chicano subjects, but this trend was not present for recall of the modeled behaviors (Table 11). These results may have been affected in part by the gross measuring instruments employed in the investigation; however, it is also possible that the imitative behaviors which this study sought to promote, i.e., decision-making activities in academic situations, were more important stimuli for the Anglo than for the Chicano subjects. Future counseling research utilizing more sensitive criterion measures for both types of imitative behaviors is needed to determine more fully the ways in which acquisition and performance of modeled behavior is affected by the ethnic characteristics of the student observers.

The planned comparisons for testing the main effects in social models (Tables 11 through 13) indicate that both ethnic types were equally effective in promoting acquisition and performance of modeled behaviors. Similarly, Anglo and Chicano counselors were equally effective in promoting recall and frequency of information-seeking activities for subjects of either ethnic group; however, Anglo counselors promoted more variety of information-seeking behaviors ($p < .10$) than did Chicano counselors. These results suggest that it is not the ethnic type of social model or counselor per se which affects the extent of imitative behaviors of student observers, but that social modeling procedures constitute methods that can be profitably used by different ethnic groups. Additional research to investigate whether these results are reproduced in settings other than the school counseling situation is needed in order to generalize these findings of the study.

The data in Tables 21 through 23 indicate that the interaction of ethnic characteristics of counselors and social models for recall was in the opposite direction than the same interactions for frequency and variety of information-seeking behaviors. The acquisition of modeled behavior was strongest when counselors and social models were of different ethnicity, as is indicated in three out of the four comparisons between the two sets of social models used by each counselor (Table 21). On the other hand, performance of modeled behavior by subjects was strongest when counselors and social models were of similar ethnicity, as is indicated in all four comparisons between the social models used by each counselor for frequency (Table 22) and for variety of information-seeking (Table 23). These trends suggest that counselors might promote acquisition of modeled behaviors when they employ a variety of ethnic stimuli, but that performance of modeled behavior is promoted by similarity of ethnic stimuli. It would appear that a greater array of contrasting stimuli maintains the attention of the subjects so that the modeled behavior is carefully observed, but that consistency in stimuli motivates the subjects to engage in the modeled behaviors.

The data presented in Tables 8 through 13 indicate a consistent trend in the direction of importance of ethnic similarity between social models and subjects but not between counselors and subjects. These findings may have far reaching consequences in the selection of instructional materials and the hiring of counselors in school settings. Further experimental research is necessary to determine whether these trends are also present between ethnic groups and/or in settings other than those employed in this study. An urban school where several ethnic minorities are represented, for example, might well reflect stronger ethnic ties than were found in the school participating in this investigation. In such an urban school the classroom might be the only place where students actually come into contact with members of other ethnic groups, while the rural environment in which this study was conducted may have promoted strong contacts between students of different ethnicities. Since it would hardly be possible to contract counselors and educators in direct proportion to the numbers of students in each ethnic subgroup--and the results of this investigation do not support such a policy--additional research concerning ethnic variables _in_ counselors would be crucial. On the other hand, it would be feasible to employ series of counseling and instructional materials in which different ethnic groups are adequately represented. The trend indicated in the study would support such an approach but further research for this variable is needed. Furthermore, this study explored the ethnic variables as represented in Anglo and Mexican-American groups. The conclusions derived from the data do not necessarily apply to other cultural sub-groups. Replication of the procedures employed with black, Puerto Rican, Oriental, and American-Indian subjects is needed in order to increase the understanding of social modeling effects within and between these groups.

The results of this investigation may also have been affected by the fact that all treatments were administered in dyadic settings. Since there has been little research on the effects of ethnic similarity or dissimilarity in groups, further exploration of the variables employed in this study will be needed before any conclusions can be reached concerning the efficacy of social models and counselors or educators of similar ethnicity as the members of a group. Ethnicity is, by its very nature, a group phenomenon; therefore, participants in a group may well be affected differently by social models and/or counselors employed in the presence of groups of students having similar or different ethnic characteristics than the social models and/cr the counselors.

The subjects exposed to the social modeling procedures employed in this study did not perform significantly more of the criterion behaviors than did the control subjects. This absence of experimental effects may have been caused in part by the dependent variables used, i.e., academic decision-making activities, or by a weakness of the independent variables, i.e., the ethnic characteristics of the models and counselors may not have been sufficiently emphasized to obtain differential effects. On the other hand, it is also possible that ethnic characteristics do not constitute crucial factors in promoting imitative behavior or that the prerequisites of social modeling are insufficiently known. Although ample research evidence is available (e.g., Bandura, Grusec, & Menlove, 1967; Bandura & Menlove, 1968; Bandura, Ross, & Ross, 1961, 1963a, 1963b, 1963c;

Bandura & Walters, 1963; Krumboltz & Thoresen, 1964; Krumboltz, Varenhorst, & Thoresen, 1967; Thoresen & Krumboltz, 1968; Thoresen, Krumboltz, & Varenhorst, 1965, 1967) demonstrating that social modeling procedures are effective in promoting changes in behavior, the results of this study do not support this position. Individuals assigned to the inactive control procedures performed as many of the criterion behaviors as did those subjects exposed to the social modeling procedures. It may well be that those social modeling studies for which non-significant results have been obtained are those which have not appeared in the literature. In order to evaluate the effectiveness of social modeling procedures adequately, it is mandatory that both supporting and non-supporting findings be made available to the profession. The results of this study would indicate that replications need to be carried out of many of those studies for which significant results have been obtained and which have appeared in the literature. However, it is possible that many of the factors occurring during the implementation of this study, e.g., conversations between control subjects and experimental subjects, observation of the video equipment by controls, may have attenuated the effects of the social modeling procedures.

Further investigation is also needed in the area of the decision-making procedures employed in this study for such activities, strongly recommended by several authors in the field (e.g., Gelatt, 1962, 1964: Krumboltz, 1964a, 1966) are undoubtedly an important aspect of school counseling. Future research should direct itself to the implementation of decision-making strategies in other than academic situations and should use measurements more refined than the ones employed in this study. Possible dependent variables could include selection of seats in a classroom, interaction with members of other ethnic groups, particicipation in inter- and intra-mural activities, and engagement in community activities.

Finally, while the results of the study do not support the hypothesis that ethnic characteristics of social models and counselors are crucial factors in school counseling, and while no critical levels of statistical significance were achieved for the interaction of ethnic similarity among social models and student observers, consistent trends indicate a greater eliciting power for social models of an ethnicity similar to that of the subjects. These trends strongly suggest that further exploration should be conducted over a longer period of time than was possible in this study. If, as many authors indicate (e.g., Grebler, Moore, & Guzman, 1970; Vasquez, 1971) the lower achievement levels of Chicano students are in part the result of feelings of alienation from a middle class Anglo school environment which does not reflect, or is alien to, their values and interests, intensive investigations exploring this variable should be conducted. Throughout his school life, particularly in reading and social studies, the student is exposed to models who experience success or failure; therefore, intensive and longitudinal research of procedures incorporating positive models for ethnic minorities must be assigned a high priority.

Conclusion

Numerous research studies (e.g., Bandura, Ross, & Ross, 1961, 1963a, 1963b, 1963c; Bandura & Menlove, 1968; Krumboltz & Thoresen, 1964) have demonstrated that social modeling is an effective means of changing behaviors. To this investigator's knowledge, no study has investigated how ethnic characteristics of social models, counselors, and observers influence the effectiveness of the modeling procedures. The present study was an attempt to determine whether Anglo or Mexican-American characteristics in social models, counselors, and subjects would affect the acquisition and performance of modeled behaviors.

The major findings were as follows:

(1) Anglo and Chicano social models were equally effective in promoting imitative behaviors among observers of either Anglo or Chicano backgrounds.

(2) Anglo and Chicano counselors were equally effective in counseling students of either ethnic background relative to academic decision-making.

(3) Anglo subjects performed more modeled behaviors than did Chicano subjects, but no difference for the acquisition of modeled behaviors was found.

(4) Exposure to social models of similar ethnic backgrounds as themselves--as compared to exposure to models of different ethnicity--did not significantly affect the degree to which subjects recalled the modeled behaviors or the extent or variety of information-seeking activities engaged in by the subjects. However, the data indicated a trend in the direction of ethnic similarity.

(5) The interaction of ethnic characteristics of counselors and subjects did not significantly affect the extent of the criterion behaviors.

(6) Interaction effects between social models, counselors, and subjects of similar or different ethnic characteristics did not attain statistical significance.

(7) Anglo subjects exposed to Anglo models presented

by Anglo counselors performed consistently more criterion behaviors than did either Anglo or Chicano controls. Chicano subjects exposed to Anglo models presented by Chicano counselors performed consistently less criterion behaviors than did either Anglo or Chicano controls. No further consistent trends in the comparisons between experimental and control groups were found.

(8) Differences within Anglo or within Chicano counselors did not reach the .05 level of statistical significance except for a differential of .025 for recall in the interaction of the main variables within Anglo counselors.

Additional research utilizing different criterion measures, designs, and media of model presentation is necessary before any final conclusions can be drawn.

REFERENCES

Aragon, J. A. & Ulibarri, S. R. Learn, amigo, learn. Personnel and Guidance Journal, 1971, 50, 87-89.

Astin, H. S. Career development during the high school years. Journal of Counseling Psychology, 1967, 14, 94-98.

Astin, H. S. Stability and change in the careerplans of ninth grade girls. Personnel and Guidance Journal, 1968, 46, 961-966.

Atkinson, D. R. Effect of selected behavior modification techniques on student-initiated action. Journal of Counseling Psychology, 1971, 18, 395-400.

Atkinson, J. W. Motivational determinants of risk-taking behavior. Psychological Review, 1957, 64, 359-372.

Atkinson, J. W., Bastian, J. R., Earl, R. W., & Litwin, G. H. The achievement motive, goal setting, and probability preferences. Journal of Abnormal and Social Psychology, 1960, 60, 27-36.

Bandura, A. Social learning through imitation. In M. R. Jones (Ed.), Nebraska symposium on motivation, 1962. Lincoln: University of Nebraska Press, 1962.

Bandura, A. Behavioral modification through modeling procedures. In L. Krasner & L. P. Ullmann (Eds.), Research in behavior modification. San Francisco: Holt, Rinehart & Winston, 1965.

Bandura, A. Principles of behavior modification. New York: Holt, Rinehart & Winston, 1969.

Bandura, A. Influence of models' reinforcement contingencies on the acquisition of imitative responses. In E. McGinnies and C. B. Ferster (Eds.), The reinforcement of social behavior. Boston: Houghton Mifflin, 1971.

Bandura, A., Grusec, J. E., & Menlove, F. L. Observational learning as a function of symbolization and incentive set. Child Development, 1966, 37, 499-506.

Bandura, A., Grusec, J. E., & Menlove, F. L. Vicarious extinction of avoidance behavior. _Journal of Personality and Social Psychology_, 1967, _5_, 16-23.

Bandura, A. & Huston, A. C. Identification as a process of incidental learning. _Journal of Abnormal and Social Psychology_, 1961, _63_, 311-318.

Bandura, A. & Kupers, C. J. Transmission of patterns of self-reinforcement through modeling. _Journal of Abnormal and Social Psychology_, 1964, _69_, 1-9.

Bandura, A. & McDonald, F. J. The influence of social reinforcement and the behavior of models in shaping children's moral judgments. _Journal of Abnormal and Social Psychology_, 1963, _67_, 274-281.

Bandura, A. & Menlove, F. L. Factors determining vicarious extinction of avoidance behavior through symbolic modeling. _Journal of Personality and Social Psychology_, 1968, _8_, 99-108.

Bandura, A., Ross, D., & Ross, S. A. Transmission of aggression through imitation of aggressive models. _Journal of Abnormal and Social Psychology_, 1961, _63_, 575-582.

Bandura, A., Ross, D., & Ross, S. A. A comparative test of the status envy, social power, and secondary reinforcement theories of identificatory learning. _Journal of Abnormal and Social Psychology_, 1963, _67_, 527-534. (a)

Bandura, A., Ross, D., & Ross, S. A. Imitation of film-mediated aggressive models. _Journal of Abnormal and Social Psychology_, 1963, _66_, 3-11. (b)

Bandura, A., Ross, D., & Ross, S. A. Vicarious reinforcement and imitative learning. _Journal of Abnormal and Social Psychology_, 1963, _67_, 601-607. (c)

Bandura, A. & Walters, R. _Social imitation and personality development_. New York: Holt, Rinehart, & Winston, 1963.

Beach, A. L. Overcoming underachievement. In J. D. Krumboltz & C. E. Thoresen (Eds.), Behavioral counseling: Cases and techniques. New York: Holt, Rinehart & Winston, 1969.

Bell, A. P. Role modeling of fathers in adolescence and young adulthood. Journal of Counseling Psychology, 1969, 16, 30-35.

Berdie, R. F., Layton, W. L., Swanson, E. O., & Hagenah, T. Testing in guidance and counseling. New York: McGraw-Hill, 1963.

Beyer, N. L. & May, J. G., Jr. The effects of race and socioeconomic status on imitative behavior in children using white male and female models. Unpublished manuscript, Florida State University, 1968. (In A. Bandura, Principles of behavior modification. New York: Holt, Rinehart & Winston, 1969).

Biggers, J. L. The use of information in vocational decision-making. Vocational Guidance Quarterly, 1971, 19, 171-176.

Bijou, S. W. Implications of behavioral science for counseling and guidance. In J. D. Krumboltz (Ed.), Revolution in counseling. Boston: Houghton Mifflin, 1966.

Bordin, E. S., Nachmann, B., & Segal, S. J. An articulated framework for vocational development. Journal of Counseling Pscyhology, 1963, 10, 107-117.

Bourdon, R. D. Imitation: Implications for counseling and therapy. Review of Educational Research, 1970, 40, 429-457.

Bracht, G. N. & Glass, G. V. The external validity of experiments. American Educational Research Journal, 1968, 5, 437-474.

Brophy, J. E. & Good, T. L. Teachers' communication of differential expectations for children's classroom performances. Journal of Educational Psychology, 1970, 61, 365-374.

Bros, I. D. Design for decision. New York: Macmillan, 1953.

Burstein, E., Stotland, E., & Zander, A. Similarity to a model and self-evaluation. Journal of Abnormal and Social Psychology, 1961, 62, 257-264.

California Guidance Newsletter, XXV, 5, May 1971.

Campbell, D. T. & Stanley, J. C. Experimental and quasi-experimental designs for research. Chicago: Rand McNally, 1963.

Chapman, D. W. & Volkman, J. A social determinant of the level of aspiration. In E. E. Maccoby, T. M. Newcomb, & E. L. Hartley (Eds.), Readings in social psychology. New York: Holt, Rinehart, & Winston, 1958.

Cicourel, A. V. & Kitsuse, J. I. The educational decision-makers. Indianapolis: Bobbs-Merrill, 1963.

Clarke, R., Gelatt, H. B., & Levine, L. A decision-making paradigm for local guidance research. Personnel and Guidance Journal, 1965, 44, 40-51.

Clements, H. M., Duncan, J. A., & Taylor, W. M. Toward effective evaluation of the culturally deprived. Personnel and Guidance Journal, 1969, 47, 891-896.

Cronbach, I. J. and Gleser, G. C. Psychological tests and personnel decisions. Urbana: University of Illinois Press, 1965.

Danskin, D. G. Studies on the sociological aspects of specific occupations. Personnel and Guidance Journal, 1957, 36, 104-111.

de Charms, R. & Rosenbaum, M. E. Status variables and matching behavior. Journal of Personality, 1960, 28, 492-502.

de Groot, A. Thought and choice in chess. The Hague: Mouton, 1965.

Demos, G. D. Analysis of college dropouts--some manifest and covert reasons. Personnel and Guidance Journal, 1968, 46, 681-684.

de Visser, L. A. J. M. The use of relaxation and thought-stopping techniques with a case of insomnia. (manuscript)

Dilley, J. S. Counselor actions that facilitate decision-making. The School Counselor, 1968, 15, 247-252.

Di Vesta, F. J. & Walls, R. T. Transfer of solution rules in problem solving. Journal of Educational Psychology, 1967, 58, 319-326.

Edington, E. D. Disadvantaged rural youth. Review of Educational Research, 1970, 40, 69-85.

Edwards, C. N. Cultural values and role decisions: A study of educated women. Journal of Counseling Psychology, 1969, 16, 36-40.

Edwards, W. Behavioral decision theory. Annual Review of Psychology, 1961, 12, 473-498.

Edwards, W. & Tversky, A. (Eds.) Decision making. Baltimore: Penguin Books, 1967.

Epstein, R. Aggression toward outgroups as a function of authoritarianism and imitation of aggressive models. Journal of Personality and Social Psychology, 1966, 3, 574-579.

Evans, J. R. Transfer of decision-making skills learned in a counseling-like setting to similar and dissimilar situations. Dissertation Abstracts, 1969, 29 (10-A), 3416.

Feather, N. T. Subjective probability and decision under uncertainty. Psychological Review, 1959, 66, 150-164.

Feather, N. T. The relationship of expectation of success to reported probability, task structure and achievement related motivation. Journal of Abnormal and Social Psychology, 1963, 66, 231-238.

Feshbach, N. D. & Roe, K. Empathy in six- and seven-year-olds. *Child Development*, 1968, *39*, 133-145.

Frankel, M. Effects of videotape modeling and self-confrontation techniques on microcounseling behavior. *Journal of Counseling Psychology*, 1971, *18*, 465-471.

Garcia, E., Bear, D. M., & Firestone, I. The development of generalized imitation within topographically determined boundaries. *Journal of Applied Behavior Analysis*, 1971, *4*, 101-112.

Gelatt, H. B. Decision-making: A conceptual framework of reference for counseling. *Journal of Counseling Psychology*, 1962, *9*, 240-245.

Gelatt, H. B. The influence of outcome probability data on college choice. Unpublished doctoral dissertation, Stanford University, 1964.

Gelatt, H. B. & Clarke, R. B. Role of subjective probabilities in the decision process. *Journal of Counseling Psychology*, 1967, *14*, 332-341.

Gelfand, D. M. The influence of self-esteem on rate of verbal conditioning and social matching behavior. *Journal of Abnormal and Social Psychology*, 1962, *65*, 259-265.

Gewirtz, J. L. & Stingle, K. G. Learning of generalized imitation as the basis for identification. *Psychological Review*, 1968, *75*, 374-397.

Gibson, R. L., Higgins, R., & Mitchell, M. H. The high school dropout goes to college. *Personnel and Guidance Journal*, 1967, *45*, 824 - 827.

Graff, R. W. & MacLean, G. D. Evaluating educational-vocational counseling: A model for change. *Personnel and Guidance Journal*, 1970, *48*, 568-574.

Grebler, L., Moore, J. W., & Guzman, R. C. *The Mexican-American People*. New York: The Free Press, 1970.

Grusec, J. & Mischel, W. Model's characteristics as determinants of social learning. *Journal of Personality and Social Psychology*, 1966, *4*, 211-215.

Halpern, G. & Norris, L. Student curriculum decisions. *Personnel and Guidance Journal*, 1968, *47*, 240-243.

Hansen, J. C., Niland, T. M., & Zani, L. P. Model reinforcement in group counseling with elementary school children. *Personnel and Guidance Journal*, 1969, *47*, 741-744.

Hays, W. L. *Statistics*. New York: Holt, Rinehart & Winston, 1963.

Henker, B. A. & Rotter, J. B. Effect of model characteristics on children's play and task imitation. *Proceedings of the 76th Annual Convention of the American Psychological Association*, 1968, *3*, 341-342. (summary)

Hershenson, D. B. & Roth, R. M. A decisional process model of vocational development. *Journal of Counseling Psychology*, 1966, *13*, 368-370.

Hilgard, E. R., Sart, E. M., & Magaret, G. Z. Level of aspiration as affected by relative standing in an experimental social group. *Journal of Experimental Psychology*, 1940, *27*, 411-421.

Holland, J. L. A theory of vocational choice. *Journal of Counseling Psychology*, 1959, *6*, 35-45.

Hollender, J. W. Development of a realistic vocational choice. *Journal of Counseling Psychology*, 1967, *14*, 314-318.

Hollender, J. W. Development of vocational decisions during adolescence. *Journal of Counseling Psychology*, 1971, *18*, 244-248.

Hoppock, R. *Occupational information*. New York: McGraw-Hill, 1957.

Hosford, R. E. Behavioral counseling--a contemporary overview. *The Counseling Psychologist*, 1969, *1*, 1-33, 89-95. (a)

Hosford, R. E. Overcoming fear of speaking in a group. In J. D. Krumboltz & C. E. Thoresen (Eds.), Behavioral counseling: Cases and techniques. New York: Holt, Rinehart & Winston, 1969. (b)

Hosford, R. E. Teaching teachers to reinforce student participation. In J. D. Krumboltz & C. E. Thoresen (Eds.), Behavioral counseling: Cases and techniques. New York: Holt, Rinehart & Winston, 1969. (c)

Hosford, R. E. Are counselors controllers of social mobility? A paper presented at the American Personnel and Guidance Association Convention, Atlantic City, New Jersey, April 4-8, 1971.

Hosford, R. E. & de Visser, L. A. J. M. An introduction to behavioral counseling: Theory and practice. University of California, Santa Barbara, 1971. (mimeo)

Hosford, R. E. & Zimmer, J. M. Humanism through behaviorism. Counseling and Values, 1972, 16, 162-168.

Hunt, J. McV. (Ed.) Personality and the behavior disorders. Vol. I, New York: Ronald Press, 1944.

Jakubczak, L. F. & Walters, R. H. Suggestibility as dependency behavior. Journal of Abnormal and Social Psychology, 1959, 59, 102-107.

Jones, G. B. Improving study behaviors. In J. D. Krumboltz & C. E. Thoresen (Eds.), Behavioral counseling: Cases and techniques. New York: Holt, Rinehart & Winston, 1969.

Jones, G. B. & Krumboltz, J. D. Stimulating vocational exploration through film-mediated problems. Journal of Counseling Psychology, 1970, 17, 107-114.

Jones, M. R. (Ed.) Nebraska symposium on motivation, 1962. Lincoln: University of Nebraska Press, 1962.

Kagan, J. The concept of identification. Psychological Review, 1958, 65, 296-305.

Kagan, J. Personality development. New York: Harcourt, Brace & Jovanovich, 1971.

Kagan, J. & Mussen, P. H. Dependency themes on the TAT and group conformity. Journal of Consulting Psychology, 1956, 20, 29-32.

Kanareff, V. T. & Lanzetta, J. T. Effects of task definition and probability of reinforcement upon the acquisition and extinction of imitative responses. Journal of Experimental Psychology, 1960, 60, 340-348.

Kanfer, F. H. & Duerfeldt, P. H. Learner competence, model competence, and number of observation trials in vicarious learning. Journal of Educational Psychology, 1967, 58, 153-157.

Kanfer, F. H. & Phillips, J. S. Learning foundations of behavior therapy. New York: John Wiley & Sons, 1970.

Katz, M. Decisions and values. New York: College Entrance Examination Board, 1963.

Keislar, E. R. & Stern, C. Differentiated instruction in problem solving for children of different mental ability levels. Journal of Educational Psychology, 1970, 61, 445-450.

Kempthorne, O. The design and analysis of experiments with some reference to educational research. In R. O. Collier, Jr., and S. M. Elam (Eds.), Research design and analysis: Second annual Phi Delta Kappa symposium on educational research. Bloomington, Indiana: Phi Delta Kappa, 1961.

Kendrick, S. A. & Thomas, C. L. Transition from school to college. Review of Educational Research, 1970, 40, 151-179.

Klausmeier, H. J. & Goodwin, W. Learning and human abilities. New York: Harper & Row, 1966.

Kleinmuntz, B. (Ed.) Problem-solving: Research, method and theory. New York: John Wiley & Sons, 1966.

Klugman, S. F. The effect of money incentives versus praise upon the reliability and obtained scores of the revised Stanford-Binet test. Journal of Psychology, 1944, 30, 255-269.

Krasner, L. & Ullman, L. P. (Eds.) Research in behavior modification. San Francisco: Holt, Rinehart & Winston, 1965.

Krumboltz, J. D. Behavioral goals for counseling. Stanford University, 1964. (mimeo) (a)

Krumboltz, J. D. Parable of the good counselor. Personnel and Guidance Journal, 1964, 43, 118-126. (b)

Krumboltz, J. D. Behavioral counseling: Rationale and research. Personnel and Guidance Journal, 1965, 44, 383-387.

Krumboltz, J. D. Promoting adaptive behavior: New answers to familiar questions. In J. D. Krumboltz (Ed.), Revolution in counseling: Implications of behavioral science. Boston: Houghton Mifflin, 1966.

Krumboltz, J. D. (Ed.) Revolution in counseling: Implications of behavioral science. Boston: Houghton Mifflin, 1966.

Krumboltz, J. D. & Schroeder, W. W. Promoting career exploration through reinforcement. Personnel and Guidance Journal, 1965, 44, 19-26.

Krumboltz, J. D. & Thoresen, C. E. The effect of behavior counseling in group and individual settings on information-seeking behavior. Journal of Counseling Psychology, 1964, 11, 324-333.

Krumboltz, J. D. & Thoresen, C. E. (Eds.) Behavioral counseling: Cases and techniques. New York: Holt, Rinehart & Winston, 1969.

Krumboltz, J. D., Varenhorst, B. B., & Thoresen, C. E. Nonverbal factors in the effectiveness of models in counseling. Journal of Counseling Psychology, 1967, 14, 412-418.

Lazarus, A. A. Group therapy of phobic disorders by systematic desensitization. Journal of Abnormal and Social Psychology, 1961, 63, 504-510.

Leacock, E. The concept of culture and its significance for school counselors. Personnel and Guidance Journal, 1968, 46, 844-851.

Lefkowitz, M., Blake, R. R., & Mouton, J. S. Status factors in pedestrian violation of traffic signals. Journal of Abnormal and Social Psychology, 1955, 51, 704-705.

Levin, H. M., Guthrie, J. W., Kleindorfer, G. B., & Stout, R. T. School achievement and post-school success: A review. Review of Educational Research, 1971, 41, 1-16.

Lewin, K., Dembo, T., Festinger, L., & Sears, P. Level of aspiration. In J. McV. Hunt (Ed.), Personality and the behavior disorders. Vol. I, New York: Ronald Press, 1944.

Linton, R. The cultural background of personality. New York: Appleton-Century-Crofts, 1945.

Logue, P. E., Zenner, M., & Gohman, G. Video-tape role playing in the job interview. Journal of Counseling Psychology, 1968, 15, 436-438.

London, P. The death of ideology in behavior modification. A paper presented at the Third Annual Southern California Conference on Behavior Modification, Los Angeles, October 8-10, 1971.

Long, R. A. Background similarity of model and subject as a factor in model-reinforcement counseling. Dissertation Abstracts, 1969, 27(7-A), 2096.

Lundin, R. W. Personality: A behavioral analysis. New York: Macmillan, 1969.

Maccoby, E. E., Newcomb, T. M., & Hartley, E. L. Readings in social psychology. New York: Holt, Rinehart & Winston, 1958.

Magoon, T. Innovations in counseling. Journal of Counseling Psychology, 1964, 11, 342-347.

Marr, E. Some behaviors and attitudes relating to vocational choice. Journal of Counseling Psychology, 1965, 12, 404-408.

Mason, E. P. Cross-validation study of personality characteristics of junior high students from American Indian, Mexican and Caucasian ethnic backgrounds. Journal of Social Psychology, 1969, 77, 15-24.

Matheny, K. Counselors as environmental engineers. Personnel and Guidance Journal, 1971, 49, 439-444.

Mausner, B. & Bloch, B. L. A study of the additivity of variables affecting social interaction. Journal of Abnormal and Social Psychology, 1957, 54, 250-256.

McGinnies, E. & Ferster, C. B. (Eds.) The reinforcement of social behavior. Boston: Houghton Mifflin, 1971.

Meyer, A. B., Strowig, W., & Hosford, R. E. Behavior-reinforcement counseling with rural high school youth. Journal of Counseling Psychology, 1970, 17, 127-132.

Miller, A. W. Learning theory and vocational decisions. Personnel and Guidance Journal, 1968, 47, 18-23.

Miller, N. E. & Dollard, J. Social learning and imitation. New Haven: Yale University Press, 1941.

Minor, F. J., Myers, R. A., & Super, D. E. An experimental computer-based educational and career exploration system. Personnel and Guidance Journal, 1969, 47, 564-569.

Mischel, W. & Grusec, J. Determinants of the rehearsal and transmission of neutral and oversize behaviors. Journal of Personality and Social Psychology, 1966, 3, 197-205.

Morrill, W. H. & Forrest, D. J. Dimensions of counseling for career development. Personnel and Guidance Journal, 1970, 49, 299-305.

Mortensen, D. G. & Schmuller, A. M. Guidance in today's schools. New York: John Wiley & Sons, 1966.

Mussen, B. H. & Distler, L. Masculinity identification and father-son relationships. Journal of Abnormal and Social Psychology, 1959, 59, 350-356.

Myrick, R. D. Effect of a model on verbal behavior in counseling. Journal of Counseling Psychology, 1969, 16, 185-190.

Novick, M. R. & Jackson, P. H. Bayesian Guidance Technology. Review of Educational Research, 1970, 40, 459-494.

Ohlsen, M. M. Guidance services in the modern school. New York: Harcourt, Brace & World, 1964.

Ortega, P. D. The education of Mexican Americans. In E. Ludwig & J. Santibanez (Eds.), The Chicanos: Mexican American voices. Baltimore: Penguin Books, 1971.

Pallone, N. J., Rickard, F. S., & Hurley, R. B. Key influencers of occupational preference among black youth. Journal of Counseling Psychology, 1970, 17, 498-501.

Palomares, U. H. Nuestros sentimientos son iguales, la diferencia es en la experiencia. Personnel and Guidance Journal, 1971, 50, 137-144. (a)

Palomares, U. H. Viva la raza. Personnel and Guidance Journal, 1971, 50, 119-129. (b)

Patterson, G. R. Teaching parents to be behavior modifiers in the classroom. In J. D. Krumboltz & C. E. Thoresen (Eds.), Behavioral counseling: Cases and techniques. New York: Holt, Rinehart & Winston, 1969.

Patterson, G. R., Littman, I., & Brown, T. R. Negative set and social learning. Journal of Personality and Social Psychology, 1968, 8, 109-116.

Peters, H. J. & Hansen, J. C. (Eds.) Vocational guidance and career development. New York: Macmillan, 1966.

Research Organizing Cooperative of San Francisco (ROC) The lives of Los Siete. In E. Ludwig & J. Santibanez, The Chicanos: Mexican American voices. Baltimore: Penguin Books, 1971.

Rimm, D. C. & Mahoney, M. J. The application of reinforcement and participant modeling procedures in the treatment of snake-phobic behavior. Behavior Research and Therapy, 1969, 7, 369-376.

Ringness, T. A. Affective differences between successful and non-successful bright ninth-grade boys. Personnel and Guidance Journal, 1965, 43, 600-606.

Ringness, T. A. Identification patterns, motivation, and school achievement of bright junior high school boys. Journal of Educational Psychology, 1967, 58, 93-102.

Ringness, T. A. Mental health in the schools. New York: Random House, 1968.

Ringness, T. A. Identifying figures, their achievement values, and children's values as related to actual and predicted achievement. Journal of Educational Psychology, 1970, 61, 174-185.

Roe, A. Early determinants of vocational choice. In H. J. Peters & J. C. Hansen (Eds.), Vocational guidance and career development. New York: Macmillan, 1966.

Rohwer, W. D., Jr. Learning, race, and school success. Review of Educational Research, 1971, 41, 191-210.

Rosenbaum, M. E. & Tucker, I. F. The competence of the model and the learning of imitation and nonimitation. Journal of Experimental Psychology, 1962, 63, 183-190.

Rosenblith, J. F. Learning by imitation in kindergarten children. Child Development, 1959, 30, 69-80.

Rosenblith, J. F. Imitative color choices in kindergarten children. Child Development, 1961, 32, 211-223.

Rosenkrans, M. A. Imitation in children as a function of perceived similarity to a social model and vicarious reinforcement. Journal of Personality and Social Psychology, 1967, 7, 307-315.

Rosenthal, R. & Jacobson, L. Pygmalion in the classroom: Teacher expectations and pupils' intellectual development. New York: Holt, Rinehart & Winston, 1968.

Ryan, T. A. & Krumboltz, J. D. Effect of planned reinforcement counseling on client decision-making behavior. Journal of Counseling Psychology, 1964, 11, 315-323.

Sarason, I. G. Verbal learning, modeling, and juvenile delinquency. American Psychologist, 1968, 23, 254-266.

Savicki, V., Schumer, H., & Stanfield, R. E. Student role orientations and college dropouts. Journal of Counseling Psychology, 1970, 17, 559-566.

Schwartz, A. J. A study of values of Mexican-American pupils. California Personnel and Guidance News Journal, 1969, 1 (4), 18-22.

Scott, W. A. & Wertheimer, M. Introduction to psychological research. New York: John Wiley & Sons, 1962.

Sears, P. S. Levels of aspiration in academically successful and unsuccessful children. Journal of Abnormal and Social Psychology, 1940, 35, 498-536.

Siegel, S. A. Level of aspiration and decision-making. Psychological Review, 1957, 64, 253-262.

Simon, H. A. & Newell, A. Human problem solving: The state of the theory in 1970. American Psychologist, 1971, 26, 145-159.

Skinner, B. F. Science and human behavior. New York: Macmillan, 1953.

Skinner, B. F. An operant analysis of problem-solving. In B. Kleinmuntz (Ed.), Problem-solving: Research, method and theory. New York: John Wiley & Sons, 1966.

Skinner, B. F. Contingencies of reinforcement: A theoretical analysis. New York: Appleton-Century-Crofts, 1969.

Skinner, B. F. Beyond freedom and dignity. New York: Alfred A. Knopf, 1971.

Spiritas, A. A. & Holmes, D. S. Effects of models on interview responses. Journal of Counseling Psychology, 1971, 18, 217-220.

Staats, A. W. An integrated-functional learning approach to complex human behavior. In B. Kleinmuntz (Ed.), Problem-solving: Research, method and theory. New York: John Wiley & Sons, 1966.

Staats, A. W. Learning, language and cognition. New York: Holt, Rinehart & Winston, 1968.

Starbuck, W. H. Level of aspiration. Psychological Review, 1963, 70, 51-60.

Stilwell, W. E. & Thoresen, C. E. Effects of Mexican-American social modeling on vocational related responses of adolescents. Vocational Guidance Quarterly. (in press)

Stump, W. L., Jordan, J. E., & Friesen, E. W. Cross-cultural considerations in understanding vocational development. Journal of Counseling Psychology, 1967, 14, 325-331.

Super, D. E. A theory of vocational development. In H. J. Peters & J. C. Hansen (Eds.), Vocational guidance and career development. New York: Macmillan, 1966.

Super, D. E., Tiedeman, D. V., & Borow, H. Vocational development--symposium. Some unresolved issues in vocational developmental research. Personnel and Guidance Journal, 1961, 40, 11-15.

Tahmisian, J. A. & McReynolds, W. T. Use of parents as behavioral engineers in the treatment of a school-phobic girl. Journal of Counseling Psychology, 1971, 18, 225-228.

Tiedeman, D. V. Decision and vocational development: A paradigm and its implications. In H. J. Peters & J. C. Hansen (Eds.), Vocational guidance and career development. New York: Macmillan, 1966.

Thoresen, C. E. An experimental comparison of counseling techniques for producing information-seeking behavior. Unpublished doctoral dissertation, Stanford University, 1964.

Thoresen, C. E. & Hamilton, J. A. Peer social modeling in promoting career behaviors. Vocational Guidance Quarterly, 1972, 20, 210-216.

Thoresen, C. E., Hosford, R. E., & Krumboltz, J. D. Determining effective models for counseling clients of varying competencies. Journal of Counseling Psychology, 1970, 17, 369-375.

Thoresen, C. E. & Krumboltz, J. D. Similarity of social models and clients in behavioral counseling: Two experimental studies. Journal of Counseling Psychology, 1968, 15, 393-401.

Thoresen, C. E., Krumboltz, J. D., & Varenhorst, B. B. The sex factor in model-reinforcement counseling. American Psychologist, July, 1965, 20.

Thoresen, C. E., Krumboltz, J. D., & Varenhorst, B. B. Sex of counselors and models: Effect on client career exploration. Journal of Counseling Psychology, 1967, 14, 503-508.

Thoresen, C. E. & Mehrens, W. A. Decision theory and vocational counseling: Important concepts and questions. Personnel and Guidance Journal, 1967, 46, 165-172.

Truax, C. B. & Carkhuff, R. R. The old and the new: Theory and research in counseling and psychotherapy. Personnel and Guidance Journal, 1964, 42, 860-866.

Tyler, L. E. The work of the counselor. New York: Appleton-Century-Crofts, 1961.

Ullman, L. P. & Krasner, L. (Eds.) Case studies in behavior modification. New York: Holt, Rinehart & Winston, 1965.

U. S. Department of Labor. New directions and perspectives on careers for young Americans. Orbit, June, 1971.

Varenhorst, B. B. An experimental comparison of non-verbal factors determining reinforcement effectiveness of model-reinforced counseling. Unpublished doctoral dissertation, Stanford University, 1964.

Vasquez, R. Chicano studies: Sensitivity for two cultures. In E. Ludwig & J. Santibanez (Eds.), *The Chicanos: Mexican American voices*. Baltimore: Penguin Books, 1971.

Vaughan, R. P. College dropouts: Dismissed vs. withdrew. *Personnel and Guidance Journal* 1968, *46*, 685-689.

Vontress, C. E. Cultural barriers in the counseling relationship. *Personnel and Guidance Journal*, 1969, *48*, 11-17.

Weinstein, F. T. Reducing test anxiety. In J. D. Krumboltz & C. E. Thoresen (Eds.), *Behavioral counseling: Cases and techniques*. New York: Holt, Rinehart & Winston, 1969.

Whitney, D. R. Predicting from expressed vocational choice: A review. *Personnel and Guidance Journal*, 1969, *48*, 279-286.

Wolpe, J. *Psychotherapy by reciprocal inhibition*. Stanford: Stanford University Press, 1958.

Wolpe, J. *The practice of behavior therapy*. New York: Pergamon Press, 1969.

Wotke, K. H. & Brown, B. R. Social learning and imitation. *Review of Educational Research*, 1967, *37*, 514-538.

Wrenn, C. G. *The counselor in a changing world*. Washington, D. C.: American Personnel and Guidance Association, 1962.

Yabroff, W. *Two experiments in teaching decision-making*. Palo Alto: Unified School District, 1964.

Yates, A. J. *Behavior therapy*. New York: John Wiley & Sons, 1970.

Yenawine, G. & Arbuckle, D. S. Study of the use of videotape and audiotape as techniques in counselor education. *Journal of Counseling Psychology*, 1971, *18*, 1-6.

Zahn, C. J. & Yarrow, M. R. Conditions influencing imitative performance. *Proceedings of the 76th Annual Convention of American Psychological Association*, 1968, *1*, 339-340. (summary)

Zirkel, P. A. Self-concept and the "disadvantage" of ethnic group membership and mixture. *Review of Educational Research*, 1971, *41*, 211-225.

APPENDICES

Appendix A

INVITATION FOR COUNSELING

INVITATION FOR COUNSELING

December 1971

To All Male Eighth Grade Students:

Many of you are interested in looking into what you plan to do in high school and later on in life. Special counselors from the University of California, Santa Barbara, will come to Fillmore Jr. High School in January to talk with those of you who would like to discuss your high school plans and schedules for next year. The counselors will also be glad to talk with you about types of jobs after you finish high school. It may not be possible for all of you to see these special counselors but we will try to schedule as many of you as possible. Please answer the questions below and return this paper to your teacher or to the counseling office.

Thank you.

NAME:____________________________________

I am interested in talking with the special counselor

____ YES ____ NO

Your answers to the following questions will be helpful for the special counselors to know in what information you are interested. Your answers will be used by the special counselors from the University only and will not become part of your permanent record. If you do not know the answer to any of the questions, please put down: "Don't know," - do not leave blank spaces.

1. What job are you interested in for later on in life?
2. What school or schools do you plan to attend after high school?
3. What subjects do you want to take in high school?
4. How did you decide on the choices you indicated in the first three questions.

Appendix B

SCRIPT FOR THE SOCIAL MODEL VIDEOTAPE RECORDINGS

SCRIPT FOR THE SOCIAL MODEL VIDEOTAPE RECORDINGS

The Anglo Counselor was called Mr. George; the Chicano counselor, Mr. Escobedo. The Anglo student was called Bert; the Chicano student, José.

Social Model Videotape I

Survey of possible alternatives

C: I am ______. I am a school counselor. Counselors want to help people learn how to solve certain problems in a better way than they did before. There are many kinds of problems and many kinds of solutions, for students as well as for people later on in life. In this tape I want to show you how one student went about solving his problem.

Of course, everybody is different and the decision made by the student in this tape may not at all be the one you would have made, but the particular final decision is not so important. What you can learn from this tape is how to solve your problems; therefore, pay attention to the way in which this student reached his decision.

Counselors have the same goal as teachers: they want to help young people learn. Your English teacher, for example, wants to help you learn how to write letters correctly or how to appreciate literature. In the same way, a counselor wants to help you learn how to make wise decisions when you try to solve your personal, social, educational and vocational problems. You have to solve your own problems. Nobody can take that over for you, and I suppose that you really do not want them to. It is important, though, that you go about solving your problems in the most efficient way so that you will be happy with the results of your decisions. People can learn from the mistakes they make, but sometimes this may be a painful way of learning. A lot faster and better way is to look at the ways in which other people found the answers to

> their questions. In order to help you learn that way, four videotapes have been made to show you how a student like you decided which courses to take in senior high school.
>
> In the first tape you will see this student, while he is still in junior high, look for all kinds of possible answers to his question. In the second tape he tries to find as much information about his problem as he can. The third tape shows you how the student thinks he would feel about possible solutions. In the fourth tape the student looks at what would happen if he made a particular decision.

Scene 2: Camera in the hall, on the door of the counselor's office so that the nameplate was visible. Then the camera turned away from the door to the hall. The student (S) walked toward the office, knocked on the door, waited till he was invited to enter, and then entered the counselor's office.

Scene 3: Camera in the office of the counselor. The counselor sat at his desk; he was reading. When the student knocked, the counselor (C) looked up, said: "Yes?" waited, and when he saw S enter, he got up from his chair.

C: Hi, ______. Come on in.

S: Hi, Mr. ______.

C: Have a chair. You asked me to call you in?

S: Yeah . . . . .

C: You don't look very happy. What is the matter?

S: I'd like to talk with you about something.

C: What do you want to talk about?

S: I wanted to know . . . I just thought that you could tell me what to do for next year.

C: What do you mean?

S: You know, tell me what I am supposed to take in senior high.

C: Oh, you want to see if together we could find out what courses would be best for you to take next year.

S: Yeah.

C: Well, that will depend a lot on what you want to do later on in life. Of course, there are some courses you have to take, but there are others which you can choose.

S: Yeah, electives.

C: Right.

S: Those bother me the most. I don't want to take a lot of stuff that really won't help me later on.

C: You mean you want to plan ahead a bit.

S: Yeah. My father told me to see you about that, and here I am.

C: I see; you talked with your father about it.

S: Yeah, but he says that it's all up to me.

C: So you are telling me that you have a decision to make about which subjects would be best to take next year in senior high, but that you are not sure what direction to go.

S: That's what bothers me. I really don't know what I want to do later.

C: Deciding what career to choose is an important decision and often a lot of thinking goes into that. What kind of things are you interested in?

S: I have been thinking about building things, like houses and schools, but I'm not sure.

C: You mean construction work?

S: Yeah, and also drawing plans for bridges, and things like that.

C: Civil engineering?

S: I guess so. I hang around those places a lot. I like to see how you can plan things on blue prints and all that, and then see them come out exactly that way.

C: Tell me more about your interests.

S: I also like to draw, like posters and all that. The other day I made this big poster for the dance and everybody really liked it.

C: That sounds good. You have been successful in drawing posters.

S: Yeah, a few times. But I don't think that I want to become an artist (laughs), not enough money in it, I guess.

C: I am getting a good picture now. You are telling me that you are more interested in drawing in the sense of planning things, like an architect.

S: I've been thinking about that, but I don't want to go to school all my life. I also like to do things with my hands. You know, some people are always sitting in an office working but they never really build anything themselves. Like this program I saw on T. V. It was about an architect who had an office with a bunch of other guys, somewhere on the tenth floor of a big building. He went there every day and never saw what happened to the plans he made. He never did a whole building, either. It was always small parts, and somebody else did another part. I guess he never knew if they even used his plans.

C: So you don't want to sit in an office all day long?

S: No. I want to really do something and be proud of it, like building something and then being able to say: "Look, I did this." Maybe I'd rather work on a crane than sit in a chair making plans all day.

C: You said that you often hang around construction sites?

S: Yeah, not really on the sites, though, because you can't go there when they're working.

C: That is true. Say, ______, when you are looking at the people working on a construction project, would you rather work with the machines like a crane, or make the plans, or maybe supervise the execution of the plans?

S: I don't know. Depends a lot what you have to do to get that far.

C: True again. And that is why you want to talk about your high school plans, isn't it? Let us see how far we are. What did we discuss up to now?

S: I said that I like to build things and that I like to draw, too.

C: Right, and you do not feel that you would like an office job?

S: No. I want to see the building grow.

C: There are, of course, many possibilities in the field of construction. Did you ever talk with people who can know about specific job possibilities and what is required for those jobs?

S: No. I think about it sometimes, but I never really tried to find out.

C: Where would you go or whom could you ask?

S: I guess I should go to somebody who is working in construction?

C: That certainly would be a good idea. What about the library?

S: You mean looking up what kind of jobs there are in construction and what people do? That would be good, I guess. Maybe there are also books in the library that tell what studies you have to take for particular jobs.

C: Right. Many courses are for college, of course, but there will be several subjects you can try out a bit in high school.

S: You mean that for some jobs I would have to take a college prep program?

C: Indeed, if that is the way you want to go. Don't you want to go to college?

S: Yeah, I guess I will; to a J. C. anyway.

C: What would be another place to find out how the high school can help you in the areas of your interests?

S: The high school, of course.

C: Very good. Some subjects may be of special interest to you, mechanical drawing, for example.

S: I see. I like that idea. Maybe I should also go to the counselor at the high school and ask him, and I can talk to the mechanical drawing teacher.

C: That sounds fine, ______. Are there other types of work you would be interested in?

S: You mean other jobs in construction?

C: Yes. You must have seen the new highway that is being built three or four blocks away from school.

S: I would like that kind of work, too. I saw this movie about building ships; it must be great to plan and draw.

C: Those are other possibilities. You see, ______, that there are quite a few things you can look into to decide what subjects you should take in high school. Is there anything else you can think of?

S: Well, not that I know.

C: What about other types of engineering, like electronics? Or space?

S: No, I don't think I'd like that. That's much too big again and I would be sitting inside all the time.

C: You were also talking about working on a crane.

S: Yeah, I said that because I don't want to sit in an office all my life. But I'd rather draw things and help make them.

C: You'd rather be involved in all parts of the action.

S: Yeah. I know that I still have to wait a few years and I think that I would like to try college before I start working.

C: There will be several ways in which you can combine all these interests, it seems to me. Are there any other areas in engineering or maybe completely different jobs that you have been thinking about?

S: No, that's about it.

C: Okay, _______. I think that we have covered a lot of ground today. Before we finish, let us see if we can make a list of things you plan to do before our next meeting.

S: I want to go to the library and look up jobs in construction. I also want to talk to somebody on the job and see the people in the high school.

C: Very good. When you do all that, ______, it might be a good idea to write down a few things about what you have read and what people have told you. It is easy to forget things.

S: That is true. I found that out last week on my test. I thought I knew it all, but I sure forgot a lot.

C: Okay, _______. It looks like you are all set to start investigating. Good luck, and don't forget to bring a list of what you find out next time you come in.

S: I won't, Mr. ______. Thanks a lot.

C: You are quite welcome, ______.

Social Model Videotape II

Collection of relevant information

The counselor of the first videotape read all texts of the second tape, but except for the introduction, he was not visible during the scenes.

Scene 1: The counselor faced the camera and gave the following introduction (background is secretary working in an office):

C: You will remember that we saw ______ on the first videotape. He was looking for advice to help him decide which courses to take in high school. Maybe ______ thought that he would be leaving my office knowing exactly whether to take, for example, the honors course in English. But he learned that before you make a decision, it is a good idea to consider first all possible alternatives; then you can go out and try to find more information on the things you are interested in.

______ is interested in jobs related to engineering, particularly construction. Therefore, he will try to get more information about these jobs so that he will have a good foundation on which to build his decision. He planned to go to a construction site, to the library, and to talk to some people at the high school. Let us see what is going to happen.

Scene 2: At the construction site. S was talking with one of the workers; after some time a second worker joined them.

Voice of the Counselor: One of the best ways of finding out what your future job may be like is actually to visit a worksite, office, shop, or other location where people are performing the job you are interested in. But do not just visit. Try to talk with some of the people there and ask them the questions you wonder about. Do you want to know the working conditions? Are you interested in the required abilities? Do you have questions about the pay scale and career openings? This would be the right time to find out. What better way is there than to ask those who are right in the middle of it?

Look at ______. The man he is talking to now will certainly be able to give some very realistic answers to his questions. Notice that ______ is not just listening, but that he is writing down some of the things that he hears. You undoubtedly realize that ______ is getting some information even the best qualified counselor cannot give him because nobody can know the daily experiences of every possible job.

Scene 3: At the entrance of the library

Voice of the Counselor: A man on the job can give you much specific information about his working conditions. But of course, everybody has his own particular point of view. A visit to a library can be very useful in getting more general information about jobs you are interested in. This can help you make up your own mind.

Scene 4: S at the information desk in the library

Voice of the Counselor: Because a library can be very useful for getting information about all types of questions, it is often a bewildering place. Where are you going to find what you want? Usually it is best to ask at the information desk what area of the library has the information you are looking for.

Scene 5: S in library, looking through books and taking notes

Voice of the Counselor: ______ has found what he was looking for; he is going through some books about engineering and construction. Just as he wrote down some of the things the workmen told him, now he is going to jot down information the books give him. When you go to the library to look up information about the job you are interested in, don't just look at pictures. Instead, try to find specific answers to your questions and write those answers down. For example, what are sub-areas of the job you are thinking about? Does it seem that there are openings in the near future? Where do these people work? Is the work done as a team? I am sure you can think of more questions regarding your own fields of interest.

Scene 6: In office of the high school counselor. The counselor and S were looking at some papers and pamphlets; though they were talking, their voices were not heard.

Voice of the Counselor: We have seen ______ go to a worksite to get some specific information; then he went to the library to read up on the general background of the career he is interested in. But let us not forget that ______ is still a long way from direct involvement in a job. His primary concern at the moment is to schedule the right courses in high school. Therefore, he is seeing the high school counselor now and he is learning some important things about subjects the high school offers. ______ asks for and gets a few pamphlets about the curriculum of the high school and some information that may help him in making the right choices.

Scene 7: S was talking with the mechanical drawing teacher who showed him some of the work done by his students.

Voice of the Counselor: It has become clear to ______ that an important subject for him may be mechanical drawing. Therefore, he visits with that teacher. Since this teacher also teaches math classes, ______ uses the opportunity to ask about that subject too. He is getting some very concrete information again, just as he did when he was on the worksite, but this time the information is directly related to his work next year in the high school. Notice again that ______ is not just listening, but that he notes down a few items that will help him to remember what he was told. In this way he knows exactly where he is going.

Scene 8: The camera was focussed on pamphlets and books about engineering.

Voice of the Counselor: In this second tape you saw ______ go out and collect some important information for his decision. He now has relevant facts on which to base his choice. Before he takes the final step, however, he is going to see how the various decisions would affect him. We will see that in the next tape. For now, remember how important good information is.

Social Model Videotape III

Consideration of affective and motivational factors

Scene 1: Introduction by the counselor; he faced the camera. In the background was a bookcase.

C: We are back in the counseling office again. We have seen ______ narrow down his areas of interest in relation to the subjects he could take in the high school next year. After he had established some of the possibilities, he went out and collected relevant information because he does not want to make the wrong choice. Sound reasoning about the decision one has to make is important, but reason alone is not enough. In this coming session we will see ______ and his counselor discuss how the various choices would affect him. ______ will also try to determine how motivated he is to go a certain route. It is, of course, important to know whether you are on the right track if you want to get somewhere, but it is just as important to know whether you are willing to follow that track until the goal is reached.

Scene 2: Inside the counselor's office. C and S were seated and just about to start a conversation.

C: Hi, ______, glad to see you again.

S: Hi, Mr. ______.

C: Tell me, ______, did you find out more about the things you are interested in for next year?

S: I sure did. Look, these are some of the booklets I got from the high school; I have a few others at home. I also visited the mechanical drawing teacher; he looks like a nice guy.

C: Did you also go to a construction site?

S: Yes, that too. The people there were friendly; this one guy really wanted to help me.

C: Fine, you did a good job. Let us talk a bit about how various choices would affect you. You said that you liked the mechanical drawing teacher. I see that you got some material from him.

S: Yeah, they sure do interesting things in his class. He showed me assignments the students did. I would really like to take that class.

C: You told me the first time we met that you liked drawing.

S: Yeah, especially this type of drawing, the kind they do in the mechanical drawing class. I saw plans of houses the guys made, and now they are working on a small scale model of their own school.

C: It seems that you have to be very accurate in this type of work, ______. Do you feel that you can be that neat and precise in your work?

S: I guess I can. I always got good grades for my work, also for the way it looked. I know that your assignments don't work out if you're sloppy. In math you make all kinds of mistakes if you aren't careful with numbers and spelling goes wrong too if you aren't neat.

C: You are right.

S: You know, I told you about the posters I made? When I started out, I wanted to finish them fast, but I found out soon that it takes a lot longer when you hurry too much. You have to start all over again if only one important line is wrong.

C: Very often the best way of finding out something is actually to do it. You found out that accuracy is necessary with posters, and you won't forget that any more.

S: I sure won't.

C: It looks as though you feel you can do the type of work that would be expected of you in mechanical drawing, and that you are interested in it.

S: I think so, Mr. ______.

C: It is possible that sometimes you may have to spend quite a bit of time on assignments when you are in high school. This may be especially so in mechanical drawing; in that case you would have less free time than in the past. Do you think that you could stick to your work and not just give up after a while?

S: I have been thinking about that. I like to play in the park with my friends and I want to go on doing that when I'm in high school, but I don't think that it will be a problem. I usually do my homework right after dinner and then I have plenty of time.

C: What about television?

S: I like to look at it once in a while, but after dinner my dad always puts the news on for at least an hour and I don't like that. Sometimes I have to look at the news for homework but that's different; I'm studying then too.

C: Does the t. v. bother you when you are studying?

S: No, I have a room of my own, so it's always quiet when I want it.

C: You seem to have planned things well, ______. Did you also consider other subjects, I mean for next year?

S: Yeah. I'll have to take a lot of math, I guess.

C: What do you mean?

S: I talked to the mechanical drawing teacher. He also teaches math, and he said that those two go together.

C: That would seem so. If you want to draw plans for a building, your measurements had better be correct; otherwise the whole thing may fall down before it is even finished.

S: And I would be out of a job! No, when I do something, I want to do it right.

C: Do you like math?

S: Usually I do. Sometimes we get those hidden problems and I don't like that.

C: Hidden problems?

S: Yeah, you know, a story with a math question somewhere in it. You have to figure out what numbers to use to solve the problem, like a guy is in a car and he goes so many miles an hour and all that.

C: Do you give up soon on that kind of problem?

S: No, I don't give up. I just don't like them too much, but I'll do them all right.

C: Did the high school counselor tell you about the program there?

S: Yeah, he gave me this paper that tells about the tracks they have there. He told me that I should take the college prep if I want to go to college.

C: Would that interfere too much with your free time?

S: I guess that I would have to study more than I do now, but I wouldn't mind that. I don't think that I would want to take any honors courses, though. Then I would have to study all day long and I'd still end up with a C or so. I'd rather take an easier program and get B's and a few A's in between.

C: You did some solid thinking, ______. Did you talk with your parents about all this?

S: Yeah, I did. My mom and dad always tell me that I can do what I want to do, but they expect me to give it a hard try before I give up anything that I started. I agree with that; I don't like to quit.

C: You have a lot of pride in yourself.

S: I don't want to be on top all the time; I know that I can't do that. Some students in my class are a lot better than I am, but if I do something, I want to do it right.

C: That sounds like an attitude that can bring success.

S: Thank you, Mr. ______.

C: You also got more information on engineering, I see.

S: I got that from the high school counselor, too. I can't use that next year, but I like to find out what I am getting into.

C: How does it look to you so far?

S: I like it.

C: You feel that it would be quite possible for you to take engineering as a career?

S: I really think so. Of course, I'll have to study a lot before I am that far.

C: Do you want to go to college?

S: I think so. I don't have to decide that until the end of senior high, though. But I guess I would like to go.

C: That would mean a longer period of time before you can earn money for yourself; when you stay longer in school, you will not be able to have a full-time job.

S: I know. I usually get pretty good grades and I don't mind studying if I can study the things I like.

C: What about hobbies?

S: Oh, I like to do a lot of things, especially play with my friends in the park. I know, though, that high school is different from junior high, and college is even more different.

C: You feel that you would stick to your work and that you would enjoy it at least most of the time?

S: I guess so.

C: It seems that you are finding out better and better what things you like. You get to know where you want to go and you seem willing to pay the price of getting there.

S: You've helped me a lot.

C: Well, thanks, ______. I am glad to work with you. It seems that we have made some headway. You have found out what subjects you could take in high school and how you feel about them. Maybe next time we can see how successful you would be in some of the things you are interested in.

S: That sounds fine to me.

C: Okay, ______. Why don't you make a list of all the courses you could take next year. We can then discuss that list when I see you again. You have the schedule from the high school and that will give you all the information you need. Do you think that you can read that booklet?

S: I guess so. I've already read it once and I think that I know how it works. I talked about it with my dad too.

C: Fine. So what is to be done for the next meeting?

S: I am going to make a list of the subjects I would like to take next year. Oh, does that mean that the schedule has to fit?

C: No, that is a worry for later. Much of that can wait until you make up your real schedule with your high school counselor. The important thing now is that you list all the subjects you are interested in so that we can see what would happen if you chose one course over another one. Okay?

S: Okay, Mr. _______.

C: Bye, ______.

Social Model Videotape IV

Estimation of the consequences and chances of success.

Scene 1: Introduction by the counselor. He sat at his desk and faced the camera.

C: We have been following ______ through three parts of the decision-making process. First he looked at possible solutions to his problem. Then he went out to collect as much information as possible that could help him in making the right choice. After that he tried to determine how he would feel about the possible solutions open to him. At the moment we have arrived at the fourth and final tape in which we will see ______ consider the chances of success of each of the choices he has been thinking about. Together with his counselor, ______ tries to figure out what would happen if a particular solution were chosen.

When you look at this videotape, remember that it is not important whether you would have made the same choice for your final decision. What counts is that you learn how to make a decision. Your decision has to be your own, a decision for which you accept responsibility. I am sure that for something as important as your own future, you want to make the decision yourself. Therefore, it is important that you know how to go about it, that you know the process for making good decisions.

Let us look at how ______ determined what decisions would give him the best chances of success.

Scene 2: S was waiting at the door of the counselor's office; nameplate of the counselor was visible. After a few moments C approached.

C: Hi, ______, you are already waiting for me.

S: Yeah, I really got going on this thing, and I want to tell you about it.

C: I appreciate that, ______. Let's go in and see what you will decide upon.

C and S enter the office.

Scene 3: Inside the counselor's office; C and S sat down.

C: Okay, ______, fire away.

S: I definitely want to take the mechanical drawing class. I like to do that sort of thing and I know from the books in the library and the people I talked to that this would be helpful to me when I become an engineer.

C: Good. It sounds as if you have looked this choice over pretty well. What do you think of your chances for success?

S: I'm sure I can do this. As I told you before, I have always been good in drawing and I like to do it.

C: Your grades bear that out; mechanical drawing would be a good choice.

S (pulling a paper out of his pocket): Then there is math. I like geometry best because that is close to mechanical drawing.

C: That is true, but can you take geometry before you take algebra I?

S: You're right, I can't do that. The counselor in high school and the mechanical drawing teacher told me that I have to take algebra I first.

C: How many tracks are there in algebra I?

S: Three. One is for students who don't want to go to college; the other two are for college, but one of these is very tough. I talked with my brother who is in high school and he flunked that course last year.

C: That does not mean that you would fail too.

S: No, that's true, but his grades in junior high were about the same as mine. I guess that I'd better take the middle track for math.

C: Do you know whether or not you can switch to the tougher or the easier course later on if you want to?

S: Yes, I can, if my grades are good enough for the hard course.

C: Okay, that sounds like a safe decision then. When you start out this way, you have the road to college open.

S: Yeah. I'm still not sure whether to go to college, but I want to be able to get in if I decide later on that I want to go. When I take the middle track for math, I get the subjects I need if I want to go to college and at the same time I can get good grades and still have time left for sports.

C: I'm glad that you bring that up. We have talked about free time but not about sports. What sports do you play?

S: I like baseball a lot. That's the only sport I go out for at school, and I play it almost all year round in the park with my friends.

C: Are you good in it?

S: I guess so. I'm on first string here and the coach of the high school has asked me if I plan to go out next year too.

C: Do you?

S: Sure!

C: Good. So you don't want to take such a heavy load that you can't play baseball anymore.

S: No. And like I said, if I do very well in the middle track, I can still move up if I feel like it.

C: That would mean algebra I for college prep, then. You are getting well on your way. Any further subjects you have thought about?

S: Yeah. For English and history I want to take the middle track too. I'm not that good in English, but I have to take it if I want to go to college later.

C: Okay, ______. I looked at your grades some time ago, and it looks as if you can be successful in the middle track if you keep up with your work.

S: Yeah, like I told you, I want to do well in the things that I decide on.

C: That is the way to go.

S: I also want to take general science. I saw in the books in the library that many engineers work with that. I guess I like physics best, but I like other sciences too.

C: You are having science this year, aren't you?

S: Yeah, I am doing pretty well right now; that's why I want to go on with it. My brother likes it too, and he gets good grades in it.

C: That is your brother who is in high school?

S: Yeah.

C: Okay, what else?

S: My mother said that it would be good to take typing, but I don't like that.

C: Typing certainly may be very useful, but you don't have to take it the first year.

S: No. This first year I'd rather take art. I saw some of the posters they made at the high school for a contest. They were great. I'd like to do that too.

C: And as you told me before, that is also an area in which you have been doing very well.

S: I guess so. Then I want to take P. E. because during the season practice counts as an extra P. E. class for the athletes, and you can take study hall instead of regular P. E. My brother is in football and he does it that way too.

C: Now, ______, it looks as if you have made yourself a solid schedule in which you have a good chance for success. Let's go over the final list once more.

S: Okay. I want to take mechanical drawing, general science, P. E., and art. Then in the middle track, algebra I, English, and history.

C: ______, you sound a lot more sure of yourself than a few weeks ago when you came in for the first time.

S: Yeah, I know now better what I want, and also, I know how to make up my mind.

C: How do you mean that?

S: You know, not just guessing and hoping for the best, but first looking at all the answers, getting facts about them, and then seeing how you feel about the choices and whether or not you can be successful in them.

C: That sounds great!

S: You have helped me a lot, Mr. ______.

C: It has been fine working with you, ______.

S: Thanks for your help, Mr. ______.

Scene 4: Concluding remarks by the counselor. When S left the office, C looked toward the camera and said:

C: As ______ said at the end, he has reached a final decision for which he accepted the responsibility himself. More important than the exact final choice was the fact that he has learned how to go about the decision-making process, "how to make up his mind," as ______ called it.

Let us review for a moment what the important elements of the decision-making process are. The first step is to look at all the possibilities that are open to you. You try to be as specific as possible about what you want to know and then you write down all the solutions you can think of.

What is next? . . . Right, you try to find as much information about your possible choices as you can. Again, do not be satisfied with just trying to remember everything. Write down a few items; that makes it a lot easier for you to know why you want a certain thing.

The third step is looking at how you would feel about the possible answers to your problem and how motivated you are to carry out a particular solution. Sometimes this may be very confusing; therefore, it may be a good idea to write down each solution and to make a list of all plus and minus points you can think of.

Finally, you look at your chances of success. What would happen if you made one choice rather than another one? When you find out what solution gives you the most chances of getting what you want, you will be able to make up your mind and you will be in business.

When you have to make a decision, now or later, remember the way ______ went about it, and chances are you will be successful too.

Appendix C

SCRIPT FOR THE EXPERIMENTAL INTERVIEWS

First Experimental Interview (tapes 1 and 2)

The experimental counselor said:

> Hi, ______, take a seat right here. I am from UCSB; I am _______. I heard that you would like to talk about your plans for high school next year. The choices of subjects in high school are very important because not only will the right courses help you to get the most out of high school but what you learn there is often important for jobs you may want to take after high school.
>
> In order to make wise plans for the future, one should know how to go about making a decision. When you make a choice between several things, you want to be as sure as possible that you take what you really want. I would like to talk with you about how to make decisions. We will do that today, once more next week, and once again the week after that. Each time we will talk for about half an hour.
>
> I thought that you might be interested in seeing some videotapes about a student like you who was also getting ready for high school. (Bert, José), the boy on the tapes, made some excellent decisions and is now quite successful. Maybe by looking at what he did, you will get some ideas of how to make your decisions in the best way. Today I am going to show you two tapes; the first one is about alternatives, that is, finding all types of answers to your questions. When you know what things you can do, you can choose what you really want without forgetting something important.

The first 10-minute tape was then shown, after which the experimental counselor said:

> Well, ______, tell me what this tape was all about. Could you mention some alternatives you have for courses in high school and for jobs later on in life?

The experimental counselor verbally reinforced alternatives mentioned by the subject. The counselor asked for and answered any questions the subject had relative to the first model interview. He made sure the student understood the term alternatives; then he said:

> Okay, ______, now that you know what alternatives are, you can start thinking further about alternatives that are open to you for high school and jobs. I am sure that you want to know as much as possible about these alternative answers to your questions. This second tape shows you how (Bert, José), after talking with his counselor (Mr. George, Mr. Escobedo) learned more about his alternatives. Let us watch him as he is getting information about possible choices and see if that gives you some ideas of where you can get information to learn more about your own alternatives.

The second 10-minute tape was then played, after which the experimental counselor said:

> Now, ______, could you tell me what (Bert, José) did to get information about high school and jobs? What could you do to learn more about your own alternative choices? It might be helpful to jot these things down so that you can take them with you.

The experimental counselor reinforced verbally any suggestions the subject had concerning information-gathering. He asked for and answered any questions the student had regarding the second model interview and said:

> Well, ______, we did quite a lot today. Could you tell me what the two important steps in making decisions are that we have learned thus far? Can you also give me some examples of what you can do that is similar to what (Bert, José) did?

The experimental counselor made sure that the subject mentioned and described (1) alternative solutions, and (2) information-seeking. The counselor verbally reinforced any student responses related to these two steps and suggested that the student take actions similar to those demonstrated on the tapes. He then concluded the first interview:

> I'll be seeing you again next week, ______. I'll be very interested in hearing about what alternatives you have come up with, and what information you could get about them. Try to find out several things about high school and about jobs. It might be a good idea to write down all alternatives and information so you

will not forget. Maybe you can even get some folders or books and visit some people who can tell you more about high school and jobs. See you next week.

Second Experimental Interview (tape 3)

> Hi, ______, nice to see you again. Last time we talked about two steps in decision-making: first, looking for alternatives, that is finding possible answers for your questions; and second, trying to find as much information about these alternatives as one can. Your big question is what to do next year in high school. What answers did you come up with and what information did you find?

The experimental counselor verbally reinforced any responses regarding alternatives and information about them. Then he continued:

> That is very good, ______. Today we are going to look at the third step: motivation. Motivation involves the question of how much you want one solution rather than some other one, e.g., suppose next year in high school you want to take science and that there are two courses, a general science course and a college prep course. Let us say that you think that you would get an A in the general science course but a C in the college prep course. You might like an A better than a C; on the other hand, you might want to go to college and therefore the college prep course might be important to you. In order to make up your mind wisely, you would want to look at all possible answers in this way.
>
> You remember that last week we saw a videotape in which a student (Bert, José) went to his counselor (Mr. George, Mr. Escobedo) and thought of many alternatives which he could choose between. Then (Bert, José) went out to get information about his alternatives. Today we will look at another tape about (Bert and Mr. George, José and Mr. Escobedo); in this tape (Bert, José) is thinking about his motivation for the alternatives open to him.

The third 10-minute tape was then shown, after which the experimental counselor said:

> So, ______, what was this tape about? What three steps in decision-making have we discussed thus far? Now let us talk about your motivation for the alternatives you have been thinking about for high school

> as well as for jobs.

The experimental counselor verbally reinforced the subject for any responses regarding his motivation concerning each alternative considered. The counselor helped the subject to tie motivation in with whatever information the student had collected, and motivated him to gather further information.

> Good, ______. There is one more step in decision-making I would like to discuss with you, and that is the possibility for success of each alternative. We will do that next week. For now, summarize what we did last week and today and tell me your plans for the coming week. Fine, don't forget to write down the important things. Go on with looking for alternatives and information, but think especially about motivation. See you next week again, ______.

Third Experimental Interview (tape 4)

> Hi, ____, I'm glad that you could make it again. Today will be our last meeting, so let us get ready. Would you mind telling me what we have been discussing so far?

The experimental counselor verbally reinforced all subject responses regarding alternatives, collection of information, and investigation of motivation. He reinforced strongly any evidence the student could show regarding the collection of information, e.g., pamphlets, notes, books from the library.

> Very good, ______. You really learned a lot. Up to now we have been looking at (Bert, José) and his counselor (Mr. George, Mr. Escobedo) go through the first three steps in decision-making, i.e., looking for alternatives, collecting information, and investigating motivation. Today we get to the fourth and last step: what are the consequences of each alternative and what are the possibilities of success for each answer one has been thinking about?
>
> In this tape (Bert, José) discusses with his counselor the outcomes and success of all alternatives considered. It is, of course, important to try to find out if a certain answer looks like it is going to be a failure or a success. For example, suppose that you wanted to stay out late one evening. Every time you asked your dad if you could come home late, the answer was: "No," but every time you asked your mother first and then your dad, the answer was: "Okay, but not too late." What would you do next time you wanted to stay out late? Right, looking at the consequences of each alternative, you see that one way is successful, the other not, so you try the way that worked because chances are it will work again. Now, let us look at (Bert and Mr. George, José and Mr. Escobedo) and see what they think about (Bert's, José's) chances of success.

The fourth 10-minute tape was demonstrated at this time. After the tape was finished, the experimental counselor asked for and answered any questions the student had regarding probabilities of success and said:

> Fine, ______. We have seen four tapes now, each about one step in the decision-making process. Would you tell me what these four steps are again, and show me how you would go about making your decisions for high school next year and jobs later on in life?

The experimental counselor verbally reinforced all subject responses relative to alternatives, information, motivation, and probabilities of success. He made sure the student clearly understood the four steps of decision-making that have been discussed. Then he concluded the series of interviews by saying:

> That was very good, ______. You have learned a lot about how to make decisions. Don't stop now but try to carry out these four steps for your decisions about your schedule for next year.
>
> It is very important to get as much information about each choice of subject in school and career in life as you can because that information helps you to think of other alternatives and it helps you to find out how motivated you are for each alternative and how successful you might be. After a few weeks you will start scheduling for high school. I hope that our discussions have helped you to get the right courses next year.

Appendix D

RATING SCALES FOR THE EXPERIMENTAL INTERVIEWS

RATING SCALES FOR THE EXPERIMENTAL INTERVIEWS

Attention Rater: This scale is concerned only with the performance of the counselor, not with that of the client. The items listed on the scale do not necessarily occur in the sequence listed. Place a checkmark if the listed behavior occurs; disregard duration.

Experimental Interview I - Tapes 1-2

-alternatives
-information-seeking

1. Counselor introduces himself (name, UCSB)........ ___
2. Purpose of the interview (HS and career exploration).................................... ___
3. Importance of decision-making................... ___
4. Planned series of meetings (3).................. ___
5. Duration of each weekly interview (½ hour)....... ___
6. The videotapes are introduced................... ___
7. Alternatives are defined (What answers to problem?)... ___
8. Tape 1 is introduced............................ ___
9. Tape 1 is shown................................. ___
10. Client is invited to recall Tape 1.............. ___
11. Client is reinforced for recall of Tape 1........ ___
12. Client is asked what his alternatives are........ ___
13. Client is reinforced for mentioning his own alternatives..................................... ___
14. Information-seeking is defined (learn more about alternatives)..................................... ___

15. Tape 2 is introduced.............................. ___

16. Tape 2 is shown................................... ___

17. Client is invited to recall Tape 2................ ___

18. Client is reinforced for recall of Tape 2........ ___

19. Client is asked what his sources of information are... ___

20. Client is reinforced for mentioning sources of information....................................... ___

21. Client is invited to write down items so as not to forget... ___

22. The two first steps of decision-making are recalled... ___

23. Client is invited to summarize his plans for coming week...................................... ___

24. Client is reinforced for mentioning his plans.... ___

25. Client is invited to return the next week........ ___

Total number of behaviors......... ___

Percentage of possible total...... ___

Identification of Counselor: ______________________________

Identification of Rater: __________________________________

Experimental Interview II - Tape 3

- motivation

1. Counselor expresses pleasure at seeing the client again.................................... ___
2. The first two steps of decision-making are recalled.. ___
3. Client is invited to mention his alternatives.... ___
4. Client is reinforced for mentioning his alternatives.................................... ___
5. Client is invited to demonstrate information collected....................................... ___
6. Client is reinforced for information he has collected....................................... ___
7. Motivation is defined (preference among alternatives)...................................... ___
8. Counselor gives an example of motivation......... ___
9. Tape 3 is introduced............................. ___
10. Tape 3 is shown.................................. ___
11. Client is invited to recall Tape 3............... ___
12. Client is reinforced for recall of Tape 3........ ___
13. Client is asked for his motivation concerning various alternatives............................ ___
14. Client is reinforced for describing his motivation....................................... ___
15. Client is assisted in relating motivation with information...................................... ___
16. Client is invited to describe the 3 steps of decision-making................................. ___
17. Client is reinforced for each step described..... ___

18. Client is asked for his plans for the coming week.. ___

19. Client is reinforced for mentioning his plans.... ___

20. Client is invited to return the next week........ ___

Total number of behaviors......... ___

Percentage of possible total...... ___

Identification of Counselor:______________________________

Identification of Rater:__________________________________

Experimental Interview III - Tape 4

- outcomes

1. Counselor expresses pleasure at seeing the client again.................................. ___
2. Client is invited to recall the first 3 steps.... ___
3. Client is asked for his actions regarding the 3 steps.. ___
4. Client is reinforced for self-report of his actions...................................... ___
5. Client is reinforced for demonstration of items collected.................................... ___
6. Probability of success is introduced (What would happen if?)................................ ___
7. Counselor gives an example of estimation of success...................................... ___
8. Tape 4 is introduced............................. ___
9. Tape 4 is shown.................................. ___
10. Client is invited to recall Tape 4............... ___
11. Client is reinforced for recall of Tape 4........ ___
12. Client is invited to describe all 4 steps of decision-making.............................. ___
13. Counselor and client explore client's alternatives................................... ___
14. Counselor and client review client's information. ___
15. Counselor reinforces client for information collected..................................... ___
16. Counselor and client explore client's motivation. ___
17. Counselor and client explore client's chances of success................................... ___

18. Client is urged to continue the decision-making process.................................. ___

19. Counselor gives client a booklet about decision-making.................................. ___

20. The series of counseling interviews is terminated.................................. ___

Total number of behaviors..... ___

Percentage of possible total.. ___

Identification of Counselor:________ ______________________

Identification of Rater:__________ ______________________

Appendix E

RECALL QUESTIONNAIRE

Recall Questionnaire

Name:______________________________ February 1972

A few weeks ago you talked with a special counselor from the University of California, Santa Barbara, about your plans for high school and jobs after high school. The counselor showed you videotapes on t. v.; these tapes were about a counselor and a student who talked about making decisions.

Some of you had different tapes than others; we would like to know which tapes you saw on the t. v., so check what was true for the tapes that you saw:

1. The counselor on the tape was
    ____ Mexican-American
    ____ Anglo
    ____ Don't remember

2. The student on the tape was
    ____ Anglo
    ____ Mexican-American
    ____ Don't remember

3. The special counselor from the university was
    ____ Mexican-American
    ____ Anglo
    ____ Don't remember

Each of the four tapes you saw was about one important thing you should do when you have a difficult choice to make, like deciding what classes to take in high school, or what job to choose. Write down what each tape was about to show that you remember what was on the tapes; you may use your own words. (If there is not enough room, you may write on the back of this paper.)

TAPE 1 was about:

TAPE 2 was about:

TAPE 3 was about:

TAPE 4 was about:

1. When are you going to plan your own high school schedule? What things that the student on the tape did would you do also?

2. Should we do this next year again? What would you change?

3. What helped you most in this special counseling?

4. From whom of the following did you learn the most?

____ Student on the tapes
____ Counselor on the tapes
____ Special counselor

Appendix F

HIGH SCHOOL AND CAREER PLANS SURVEY

High School and Career Plans Survey

University of California, Santa Barbara

My name is ____________________. I am from UCSB and I would like your help in getting some information about ways in which students make plans for the future. I would like to ask you some questions about your plans for high school and for jobs.

1. Name of the student ____

2. What do you plan to do after you get out of junior high school?

3. What classes would you like to take in high school next year? (When student stops mentioning classes, ask: "Anything else?")

    a.
    b.
    c.
    d.
    e.
    f.
    g.
    h.
    i.
    j.
    k.
    l.

4. What jobs would you like to have later in life? Mention all jobs you really have been thinking about. (When student stops mentioning careers, ask: "Anything else?")

    a.
    b.
    c.
    d.
    e.
    f.
    g.
    h.
    i.
    j.
    k.
    l.

5. Let us go over these jobs, and this time tell me which classes in high school you feel will help you in each of them.

Career	Class	Career	Class	Career	Class	Career	Class
____	____	____	____	____	____	____	____
	____		____		____		____
	____		____		____		____
	____		____		____		____

6. Within the last 5 weeks, have you read or looked at any books, magazines or pamphlets, or seen any t.v. programs, bulletin-boards, or posters about jobs you are interested in? Mention everything, even if you did not find what you were looking for.

   (Form A for each item read or seen; be sure to ask "Anything else?" Be sure to get frequencies.)

   Total ____

7. Have you read or seen any books, magazines, or posters, or seen any t.v. programs, bulletin-boards, or pamphlets the last five weeks about classes in high school or college? Mention everything, even if you did not find what you were looking for.

   (Form A for each item read or seen; be sure to ask "Anything else?" Be sure to get frequencies.)

   Total ____

(For all information-seeking behaviors, find out what different sources were used and how often each source was consulted.)

8. Have you talked with any people the last 5 weeks who are working at jobs you are interested in; for instance, if you like engineering, did you talk to someone who is an engineer? Also, did you talk about possible jobs with your parents, neighbors, teachers, counselors, or any other people who might be able to give you information? Even if you did not learn much from someone, still mention him.

   (Form B for each person contacted.) Total ____

9. Have you talked with any people the last 5 weeks who know about classes you would like to take in high school, like teachers here in school, teachers at the high school, counselors, parents, other relatives, students from the high school? Mention everybody with whom you talked about high school classes, even if he could not tell you much.

(Form B for each person contacted.) Total _____

10. How good would you say you are in schoolwork? Let us use numbers to show your success. (Explain numbers to student.)

7 = extremely	3 = not too good
6 = quite good	2 = seldom good
5 = fairly good	1 = not at all
4 = don't know	

Success Schoolwork _____

11. How good would you say you are in other things than schoolwork, for example, sports, making friends. Let us use the same numbers as in the last question.

Success Activities _____

12. Have you visited any places where people do the type of work that you are interested in, for example, a shop or office or worksite? This must have been within the last 5 weeks.

(Form C for each place visited.) Total _____

13. Have you visited any classes at the high school, or other places where you could get information about your education the last five weeks?

(Form C for each place visited.) Total _____

14. Did you go to the library for information about schoolwork or jobs, or about what classes you need for certain jobs?

__Yes __No

How often? _______________

Why? ___________________________________

15. Did you have time to get information about your future plans for jobs or schools in the last 5 weeks?
__ Yes __ No
(If "No," ask: "Why not?") ____________________

Do you have a job after school hours? _______

Can you go to the library before or after school, or during study or lunch?
__ Yes __ No

(Remarks: ______________________________)

16. What is your father's (guardian's) occupation? What does he do? (Get specific information; if he is dead, find out what he did.)

____

17. Does your mother work outside the home? What does she do? (Get specific information.)

____

18. What is your overall grade-point average? (Circle)

A+ A A- B+ B B- C+ C C- D+ D D- F

19. Have you had any special counseling lately about your high school and career plans?
(if yes) Tell me more about this; what did the counselor do? How helpful was this special counseling? Let us use the same numbers we used before. (Explain numbers.)

7 = extremely
6 = pretty helpful
5 = a little bit helpful
4 = don't know
3 = not too helpful
2 = not much help
1 = not at all helpful

Evaluation _______

20. How successful do you feel the student on the tape would be in high school? _______
in his job later? _______ (use numbers of #19)

21. How did you like the counselor on the tapes? (use numbers of #19) Evaluation _______

22. How did you like the special counselor who showed the tapes? (use numbers of #19)
Evaluation ______

Remarks student:
(if any)

Remarks evaluator:

Name: ____________________

Form A Impersonal Sources

1. Title:
2. Author:
3. Source (library, t. v. channel):
4. Date:
5. Number of times this source was consulted:
6. What did you get out of it?

----

1. Title:
2. Author:
3. Source (library, t. v. channel):
4. Date:
5. Number of times this source was consulted:
6. What did you get out of it?

----

1. Title:
2. Author:
3. Source (library, t. v. channel):
4. Date:
5. Number of times this source was consulted:
6. What did you get out of it?

Name: ____________________

Form B

Personal Sources

1. Name:
2. Relation (parent, teacher):
3. Address: Phone:
4. Date:
5. Number of times this person was contacted:
6. What did you get out of it?

---

1. Name:
2. Relation (parent, teacher):
3. Address: Phone:
4. Date:
5. Number of times this person was contacted:
6. What did you get out of it?

---

1. Name:
2. Relation (parent, teacher):
3. Address: Phone:
4. Date:
5. Number of times this person was contacted:
6. What did you get out of it?

Name: ______________________

Form C Places Visited

1. Name of place:
2. Reason for visit:
3. Address: Phone:
4. Date:
5. Number of times this place was visited:
6. What did you get out of it?

---

1. Name of place:
2. Reason for visit:
3. Address: Phone:
4. Date:
5. Number of times this place was visited:
6. What did you get out of it?

---

1. Name of place:
2. Reason for visit:
3. Address: Phone:
4. Date:
5. Number of times this place was visited:
6. What did you get out of it?